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Nº 2143.

LONDON, SATURDAY, FEBRUARY 13, 1858.

Price Fourpence.
Stamped Edition, Fivepence.

ROYAL ACADEMY OF ARTS.—**RICHARD WESTMACOTT, Esq., R.A.**, will deliver Four Lectures on SCULPTURE, on the evenings of MONDAY the 15th and 22nd of February, and the 1st and 8th of March. The Lectures commence each evening at Eight o'clock precisely.
JOHN PRESCOTT KNIGHT, R.A., Secretary.

ROYAL ACADEMY OF ARTS.—**S. A. HART, Esq., R.A.**, will deliver Six Lectures on PAINTING, on the evenings of THURSDAY the 15th and 25th of February, and of the 4th, 11th, 18th, and 25th of March. The Lectures begin each evening at Eight o'clock precisely.
JOHN PRESCOTT KNIGHT, R.A., Secretary.

BRITISH INSTITUTION, Pall Mall.—The GALLERY for the EXHIBITION and SALE of the WORKS of BRITISH ARTISTS is OPEN DAILY, from Ten till Five. Admission 1s. Catalogue 6d.

GEORGE NICOL, Secretary.

SOCIETY OF ARTS.—The Tenth Annual Exhibition of Inventions will be opened on Monday, the 5th of April next. Articles for Exhibition, whether Specimens, Models, or Drawings, must be forwarded to the Society's House, carriage paid, not later than Saturday, the 20th of March. No charge is made for space, and the exhibition is free to the Public. Persons intending to exhibit should communicate with the Secretary of the Society of Arts as soon as possible.

P. LE NEVE FOSTER, Secretary.

Society's House, Adelphi, W.C., 3rd February, 1858.

GOVERNMENT SCHOOL OF MINES, JERMYN STREET.—The following COURSES OF LECTURES are about to be commenced:—

Thirty Lectures on GEOLOGY by Professor RAMSAY, F.R.S., to be delivered on MONDAYS, TUESDAYS, and WEDNESDAYS, at 2 p.m., commencing on MONDAY, the 15th of FEBRUARY. Fee for the course £1 10s.

Forty Lectures on MINERALOGY, by Mr. T. H. HENRY, F.R.S., to be delivered on MONDAYS, TUESDAYS, and WEDNESDAYS, at 3 p.m., commencing on MONDAY, the 15th inst. Fee for the course £2.

Fifty Lectures on NATURAL HISTORY, or the Principles of Zoology, Comparative Anatomy, and Palaeontology, by Professor HUXLEY, F.R.S., to be delivered on WEDNESDAYS, THURSDAYS, and FRIDAYS, at 8 a.m., commencing on WEDNESDAY, the 17th inst. Fee for the course £2.

Thirty-six Lectures on APPLIED MECHANICS, by Professor WILLIS, M.A., F.R.S., to be delivered on WEDNESDAYS, THURSDAYS, and FRIDAYS, at 12 o'clock, commencing on WEDNESDAY, the 17th inst. Fee for the course £2.

Tickets and prospectuses of the school may be had on application to TRENHAM REEKS, Registrar.

ARCHITECTURAL EXHIBITION, SUF-FOLK STREET, PALL MALL EAST, will close on the 24th inst. Open from Nine till Dusk. Admission One Shilling. Lecture for TUESDAY, the 16th, by J. G. CRACE, Esq., ON COLOUR. SYDNEY SMIRKE, Esq., A.R.A., will take the Chair at Eight o'clock.

JAMES FERGUSON, F.R.A.S. } Honorary
JAMES EDMESTON, Jun. } Secretaries.

DESIGNS FOR THE MEMORIAL OF THE GREAT EXHIBITION.—The Drawings and Models submitted in competition may now be seen at the ARCHITECTURAL MUSEUM, South Kensington Museum. FREE, on MONDAYS, TUESDAYS, and SATURDAYS, from TEN to FOUR o'clock; and on MONDAY and TUESDAY EVENINGS from SEVEN to TEN. On the Students' days, THURSDAY and FRIDAY, and on WEDNESDAY EVENINGS, the charge for admission to the Museum is SIXPENCE.

Subscriptions in aid of the Fund are invited.

JAMES BOOTH, } Honorary
GEORGE GODWIN, } Secretaries.

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PREFACE.

IN the month of May, 1856, H.M. Lords Commissioners of the Admiralty, advised by the Astronomer Royal, were pleased to entrust me with a scientific mission to the Peak of Teneriffe. Their Lordships most liberally placed 500*l.* at my disposal for defraying the necessary expenses; and left me, within bounds of such expenditure, as untrammelled by detailed instructions, as any explorer could desire.

No sooner was the authorization known, than numerous and valuable instruments were kindly proffered by many friends of astronomy; and one of these gentlemen, Robert Stephenson, M.P.—who had indeed fully appreciated the scientific question in 1855, and even asked me to accompany him to the Canaries in that year—immediately offered the use of his yacht *Titanic*, and by this, greatly ensured the prosperity of the undertaking.

The object mainly proposed, was to ascertain how far astronomical observation can be improved, by eliminating the lower third part of the atmosphere. For the accomplishment of this purpose an equatorial telescope and other apparatus, were conveyed in the yacht to Teneriffe in June and July, 1856. There—with the approval of the Spanish authorities (always ready in that island to favour the pursuits of scientific men of any and every country), the instruments were carried up the volcanic flanks of the mountain, to vertical heights of 8900 and 10,700 feet, and were observed with during two months.

On my return from this service in October, I had the honour of presenting to Government a short report on what had been done; following it, in the spring, with copies of the original observations, as well as the results deduced. These were afterwards communicated by authority to, and read before, the Royal Society on the 2nd of June, 1857; when they were proposed for printing in the Philosophical Transactions.

Being then asked by various friends, to prepare some account of the personal experiences under which the said observations were made, as likely to subserve many purposes not reached by the numerical statements of the Memoir,—I have endeavoured, in the following pages, to throw together those parts of my journal which seemed best calculated to bring out the specialities of scientific life on a high southern mountain. Readers who would study the history, statistics, or physics, of Teneriffe, will find them treated of at length in the several admirable publications by George Glas, Viera, Von Buch, MacGregor, and Barker-Webb cum Berthelot. Here I have only attempted an humble record of particular labours, with due regard to the objects for which they were undertaken.

THE ILLUSTRATIONS.

Anxious as myself to put all the actual facts of Nature in the elevated regions that were visited, as completely as possible before the Public, Mr. Lovell Reeve has been earnestly at work for some time past, and with the gratuitous and continued assistance of Mr. Glaisher, of the Greenwich Observatory, has succeeded in maturing plans for illustrating the Letter-Press with a Series of Photo-Stereographs, the original negatives of which were taken by myself.

This method of Book-Illustration never having been attempted before, may excuse a word on this part of the subject. By its necessary faithfulness a photograph of any sort must keep a salutary check on the pencil or long bow of the traveller; but it is not perfect; it may be tampered with, and may suffer from accidental faults of the material. These, which might

sometimes produce a great alteration of meaning in important parts of a view, may, however, be eliminated, when, as here, we have two distinct portraits of each object.

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I have only further to observe that while Mr. Reeve has been organizing his application of the manufacturing principle to the printing of photographs, Mr. Glaisher has personally superintended the chemical part of the process, in the hands of Mr. Melhuish, of Blackheath, in order to ensure permanence in the pictures so multiplied.

Edinburgh, January 1st, 1858.

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15. YOUNG DRAGON TREES AND DATE PALM IN A CACTUS GARDEN NEAR OROTAVA.
16. YOUNG DRAGON TREES (DRACENA DRACO) NEAR OROTAVA.
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LOVELL REEVE, 5, Henrietta Street, Covent Garden.

LONDON, SATURDAY, FEBRUARY 13, 1858.

REVIEWS.

History of Ancient Pottery. By Samuel Birch, F.S.A. 2 Vols. Murray.

It is stated by the German metaphysicians to be a deduction of reason, that all connexion of attribute with substance in the world of phenomena must be considered as unconditioned. In other words, reason says that we may discover new properties of things without end. One cannot help being struck with the seeming confirmation which this speculative dogma has received from experience, when we consider the progress of late years of the sciences of archaeology and history. To our judging, theoretically and *a priori*, it would seem idle to suppose that after the lapse of time, and with a well-defined but imperfect stock of records, anything like change, or progress, or increase, could take place in our knowledge of past events. Yet in no branches of science has the activity of modern mind been more keenly displayed than in its investigations, not merely of the laws of nature as they exist, but of the actions of the dead as they transpired. In history the objects of the faith of one generation are cited as fables by the next; and in antiquities established theories have shrunk and disappeared before the force of new convictions; facts have been shaken or displaced or rearranged, until the faculty itself of believing becomes impaired by the successive demands made upon it. In this latter science, archaeology, especially, every source of knowledge has undergone enlargement. A vast number of new records has been brought to light, from the discoveries at Vulci to the exhumations of Nineveh and Halicarnassus; the sites and often the dates of these records have been more carefully and intelligently observed; and the assemblage of these remains in public museums has placed them at one glance before the eye of the learned. When, therefore, a book like this of Mr. Birch's appears at rare intervals, the fruit of the united labours of *savans* for half a century, we can pause for awhile to sum up our gains, and enjoy our new possessions.

The object of the work has been to trace the history of working in clay, from its rise amongst the oldest nations of antiquity to the decline of the Roman empire. This subject has generally received one of two different kinds of treatment, either on the one hand technical, embracing details of the materials and processes, or, on the other, literary, artistic, and historical; Mr. Birch has given his attention rather to the latter than the former branch of inquiry. For such a task his advanced scholarship, his post at the centre of antiquarian knowledge in the country, and the personal assistance he has had at his command, have admirably qualified him. Henceforward the work which has just issued from the press, under the most favourable auspices of modern taste, will rank in literature not only with the special treatises of Brongniart and Marryat, but with those of Winckelmann, Becker, and K. O. Müller, which embrace general questions of ancient art. It is impossible to open these volumes at any part without feeling that Mr. Birch writes with the facility of an experienced master, that his labours have been carried through *con amore*, and that he has raised his subject from a mere description of pots and pans into the rank of an historical

and philosophical treatise. How much light has been thrown upon ancient manners, and what remarkable deductions may be obtained from the facts brought forward, we shall now proceed to notice.

The invention of bricks by the inhabitants of Egypt lies at the threshold of the inquiry. It was necessary that building materials should be symmetrical, and consequently that they should be rectangular. Hence the use of bricks instead of rough clay. Baking the bricks in a furnace instead of drying them in the sun was the next step—a sublime discovery, not inferior to that of Charles Lamb's ever-memorable Chinaman, who found out that it took less than a house to roast a pig. But bricks served for more than to build with, they have preserved to us the canon of ancient measure. Further, they have embodied the records of past generations. The following passage places some leading facts before the reader in comprehensive style:—

"The materials used for writing on have varied in different ages and nations. Among the Egyptians slices of limestone, leather, linen, and papyrus, especially the last, were universally employed. The Greeks used bronze and stone for public monuments, wax for memorandums, and papyrus for the ordinary transactions of life. The kings of Pergamus adopted parchment, and the other nations of the ancient world chiefly depended on a supply of paper of Egypt. But the Assyrians and the Babylonians employed for their public archives, their astronomical computations, their religious dedications, their historical annals, and even for title-deeds and bills of exchange, tablets, cylinders, and hexagonal prisms of terra-cotta. Two of these cylinders, still extant, contain the history of the campaign of Sennacherib against the kingdom of Judah; and two others, exhumed from the Birs Nimrud, give a detailed account of the dedication of the great temple by Nebuchadnezzar to the seven planets. To this indestructible material, and to the happy idea of employing it in this manner, the present age is indebted for a detailed history of the Assyrian monarchy; whilst the decades of Livy, the plays of Menander and the lays of Anacreon, confided to a more perishable material, have either wholly or partly disappeared amidst the wreck of empires."

The potter's wheel, the lathe, and the mould came successively into use, and "the vases," says Mr. Birch, "became not only symmetrical in their proportions, but true in their capacity." Enamelling and glazing were after-inventions, though in use at an early age both by the Greeks and Romans. Through each stage the history has been traced, ending with a brief survey of the manufactures of Germany and England. But we proceed to closer particulars. Egypt, as it has been already said, takes precedence, and here the ample remains in the British Museum, together with the extensive literature that exists on the subject, has been condensed into a narrative. Mr. Birch treats of brickmaking, modelled figures, the sepulchral cones, "reminding the spectator forcibly of the visiting cards of the living," and the sepulchral figures and vases. The process of Egyptian embalming has never, perhaps, been so fully described before, except by Mr. Pettigrew. Further on, we have represented to us the cruses for ointments and perfumes, the cases for holding *stibium*, the painter's palette of blue porcelain, cups, draughtsmen, earrings, and toys, beads, amulets, and rings. Mr. Birch says:—

"The potteries of Egypt never attained a higher excellence (than in the above small articles) in the art of making porcelain. Yet this porcelain was regarded by contemporary nations with as much

admiration as that of the Chinese excited in Europe in the Seventeenth Century. But a further step was undoubtedly required to produce a ware at the same time compact as stone and brilliant as glass, and the discovery of this is due to the Chinese. The Egyptians, although they possessed the requisite materials, failed to combine them so as to make a true porcelain."

The remains of Assyrian pottery are less valuable, but at this point Mr. Birch introduces specimens of interpretation of the arrow-headed inscriptions which are of interest; and amongst other records found upon bricks are calculations or inventions, perhaps vocabularies to guide to the deciphering of the language—a chamber of archives:—

"Some horoscopes have been already found on stone, and careful examination has now detected the records of some astronomer royal of Babylon or Nineveh inscribed on a brick. Thus, while the paper and parchment learning of the Byzantine and Alexandrian schools has almost disappeared after a few centuries, the granite pages of Egypt, and the clay leaves of Assyria, have escaped the ravages of time, and the fury of barbarism."

In treating of Babylon we have an account of the restoration of the Birs Nimrud from Sir H. Rawlinson and Mr. Layard—with a reference to the ancient accounts of the Median Ecbatana. This, though not new, forms a necessary portion of Mr. Birch's scheme. We notice here a slight discrepancy with another writer. In describing the successive stages or degrees of the Birs, Mr. Birch says:—

"The highest part—the second original step, composed of vitrified bricks of a greenish colour, is supposed to have been the step of the moon."

Mr. Fergusson, quoting Sir H. Rawlinson, says that the part which was originally highest, and is now lost, was that which is supposed to have been dedicated to the moon; and that the part now highest, composed of vitrified bricks of a greenish colour, is supposed to have been consecrated to Venus.

The large section relating to Greek pottery, occupying about one-half the entire work, is interesting above all others, from the stores of literature and history it illustrates, the high civilization it indicates, and, above all, from its unrivalled art-merits. Before, however, any reference is made to the admirable efforts of the Greek artists in vase-painting, we are reminded of the variety of the purposes to which terra-cotta was applied by the Greeks. Amongst the rest, the dolls, puppets, marionettes, or *nymphæ*, made of this material, instances of which are extant, and one of which is figured, are referred to by Xenophon in his Symposium, by Aristotle, and by Lucian. An additional article is thus furnished for the 'Dictionary of Antiquities.' In his arrangement of the remaining portion of this interesting subject, the writer has followed the general arrangement adopted by Müller in his 'Archæology.' First, we have a sketch of the literary history of the subject; then remarks upon the moulding, style, and composition of the vases throughout different ages; and then a list of the subjects which are depicted in the surviving examples. Early in this narrative an exquisite moulded *phiale omphalotos*, with egg-shaped protuberance in the middle of the basin, attracts the eye. Then a clyx of the "earliest style" is to be observed, which appears also in the frontispiece. In this class of vases the British Museum is particularly rich, having acquired many from the collections of Lord Elgin. Some also were discovered at Athens by Mr. Burgon. It has been supposed that they are

of Phœnician origin, but, says Mr. Birch, they are primitive Ionic Greek. The "archaic" style follows, when animals appear more abundantly, and a difference is apparent in the colouring, and then the "old." The illustrations here become interesting, and enough is shown by a scene of four virgins drawing water, and of Æneas bearing off Anchises, of the characteristics of this manner. The "strong" and the "fine" styles are similarly treated, until commences the decadence of art. The only objection we find to the arrangements here is, that the woodcuts do not always seem to be in their proper places as regards the text. To the large groups which occupy pp. 284, 289, and p. 287, we have been unable to find any reference whatever.

It is, however, in treating of the subjects of the vase paintings that the extent of Mr. Birch's labours has been shown. Under the heads, for instance, of the different Olympic deities, he arranges in a rapid list of the various scenes in which the god or goddess appears. Thus every clause has to be supported by references, and may aid in some unforeseen way the labours of the student. Indirectly, also, it maintains the purity of the genuine Greek myths. The list of the appearances of Athens is particularly interesting, but too long for insertion. Here are those of Ares:—

"Ares, another of the Olympian deities, in the few instances in which he appears on vases, is generally in a subordinate position; such as a spectator of the birth of Athens, taking part in the Gigantomachia, aiding his son Cycnus against Heracles, engaged in his contest with Athene, deploring the loss of his beloved Aphrodite, or detected in her arms by Poseidon and the other gods of Olympus. His type is scarcely to be distinguished from that of mortal heroes. His chariot is driven by Deinos and Phobos; but on later vases Niké acts as his charioteer.

"Aphrodite, the mistress of Ares before she was the wife of Hephaistos, is never a protagonist on the vases. Once she is seen in the society of Ares; often with a youth supposed to be Adonis. She is the constant companion of the Olympic gods, and enters into many scenes derived from the Troica; as the attiring of Helen, the rescue of Æneas, and the preservation of Helen from the wrath of Menelaos. On later vases, she is often seen at the bath or the toilet. A charming composition represents her embracing Eros; in others, she is seen caressing a dove or swan. She wears a tutulus, crosses the sea, borne by two Erotes, and accompanied by dolphins; or is mounted on a swan; or in a chariot, drawn by the Erotes, is seen caressing a hare."

The same treatment is carried through to scenes of domestic life, paintings of animals, &c., and in point of value is only inferior to the more general field traversed by Müller, which it very much resembles. In subsequent chapters instructions are given as to detecting the dates on vases, reading their inscriptions, and then interpreting them. The meaning of "Kalos" is much disputed. Enchichnoichitoichne is not unreasonably concluded to be meant for the uncertain utterance of an intoxicated reveller. The concluding portions, to which we can now do no more than briefly allude, embrace Roman pottery and the other brief subjects already mentioned. The same learning and judgment are apparent throughout. Mr. Birch has conferred a benefit upon English literature and a lustre upon English scholarship by the work he has produced; and the only observation that remains is this,—how much even his researches are indebted for their

success to the splendid collections and libraries assembled in London. The British Museum has almost rivalled the universities in its services to classical literature; and if a doubt were felt of its growing public benefit, these volumes are sufficient to dispel it.

Manual of the Land and Fresh-water Shells of the British Islands. With Figures of each of the kinds. By William Turton, M.D. New Edition, with Additions, by John Edward Gray, Ph.D., F.R.S., &c. Longman and Co.

THAT a work so purely technical as this—devoted to objects which for the most part present little beauty either of form or colour, at least to the uninitiated, and containing very little of readable matter—should pass from edition to edition, is a proof of the increasing popularity of natural science. We would not be misunderstood, in denying the character of readableness to this volume, to derogate from its value. We mean that it possesses nothing of that fascination which, when a stranger takes up a book casually from a drawing-room table, draws him on page after page, and leads him to forget where he is. It is a hard-working book; a book that is the fruit of laborious and patient toil, and that is intended to help others in like toil; it is a book to be pored over, to be thumbed, to be searched through, rather than to be devoured. Perhaps it might have been made more attractive, if more details of the habits of the little sluggish creatures had been narrated, and if they had been introduced to us more in association with those charms of sylvan scenery that help to make the searching for such things delightful. But we do not think Dr. Gray possesses the power of pen-painting; he is a laborious, trustworthy zoologist, but his writings have always a cabinet smell about them.

The scientific value of the work is too well established to need praise; it is all that the student of our terrestrial and fluviatile malacology can desire. How perfect it is, this simple fact may show—that since the last edition, seventeen years ago, the greatly augmented number and zeal of our out-of-door naturalists and cabinet-collectors have succeeded in adding but two species to the British Fauna,—viz. *Cyclas pallida* and *C. pisidioides*, little bivalves from the canals in the neighbourhood of London, and even of these the specific distinctness of one at least is considered very doubtful.

In the present edition the systematic arrangement of the mollusca is re-cast and (generally) improved. The *Pectinibranchiata* are divided into three sub-orders, characterized chiefly by the arrangement of the teeth; and the *Pneumonobranchiata* into four, with characters taken principally from the eyes, tentacles, and reproductive organs. In the *Conchifera*, the chief peculiarity is the removal of the genus *Pisidium* from the *Cyclada* even to another sub-class, on the ground of the evanescence of the branchial siphon. This certainly appears to us an example in which a mere technical peculiarity is made to over-ride all the indications of nature. The almost uniform judgment of malacologists has pronounced these shells to stand in the very closest relation to *Cyclas*; and to place them in association with other forms widely remote in every respect but one, is to outrage all the analogies which natural

science presents. The thorough naturalist will form his groups on the consideration not of a single character, but of many,—on what Professor Owen calls "the totality of the animal organization."

Dr. Gray has added considerable value to this edition by his enlarged use of characters derived from the lingual teeth and the operculum. The study of the former organs has originated (almost literally) since the publication of the last edition of this work. The wonderful array of crystalline plates, points, hooks, blades, and saws, which is affixed to the lingual ribbon that is coiled up in the throat of the *Gasteropoda*, has been of late years attracting the careful attention of microscopic observers; and perhaps none have more diligently studied them than Dr. Gray, who in this work, as well as in his numerous other writings, relies largely on the arrangement, number, and form of these organs for the distribution of the genera in this class. When we consider that the great slug of our damp cellars (*Limax maximus*) has 28,800 teeth, and the edible snail of the Kent and Surrey Downs (*Helix pomatia*) has 21,000, and the largest of our pond-snails (*Limnaea stagnalis*) has 12,100, we shall have an idea of the minuteness as well as the profusion of these appendages, which yet are constructed with the most elaborate perfection. Dr. Gray has enriched his volume by inserting an abridgment of a very valuable paper on the structure of these organs, by the late William Thompson, of Belfast.

The following observations on the homology of the operculum are interesting, but they are opposed to the views of many eminent zoologists:—

"The operculum of Gasteropodous Mollusca is like the shelly valve of those animals; and the shelly valve and the operculum together are homologous to the two valves of a conchiferous mollusk. I am therefore led to believe that the normal or typical form of mollusca is, to be protected by two valves or shells. If this theory be correct, the operculum should afford an important character for the distinction of families and genera.

"As this theory is not generally understood, I may add that the operculum of these gasteropodous mollusca, like the shelly valve of those animals and of each of the valves of bivalves—

"1. Is developed on the embryo long before it is hatched.

"2. That it is placed on, and covers, a peculiar part of the body, which bears the same relation to it as the part of the body called the mantle bears to the part usually called the shell of these animals; and it is formed, and increases in size, by an opercular mantle in the same way as the shells are.

"3. That the operculum is more or less conical, and is increased in size by the addition of new matter to the inner surface, and especially to the part of it near the margin, the new matter either forming more or less complete rings round the nucleus (or first formed part), when it is called annular, and is homologous to the simply conical shells, as the *Patella*; or the new matter is deposited almost entirely on one edge of the nucleus, when the operculum forms a more or less elongated cone, which when long is generally twisted round an imaginary axis (like a spiral shell), the broad part of the cone being next the edge of the opercular mantle which generates the new matter for enlarging its size, as the mouth of the shell is on the outer edge of the mantle of the univalve shell.

"4. That the operculum is attached to the animal by means of one or more muscles, which, as in inequivalved bivalved shells, pass from the larger valve, or shell, to the smaller one, or operculum.

"5. The operculum as it increases in size is gradually moved on the end of the muscle; the

many whorled opercula of the *trochi* revolve as many times on the end of the muscle as the many-whorled spiral shell turns on its imaginary axis, causing the muscle to move down the inner surface of the aperture.

"6. The operculum is moulded on the opercular mantle, and is often lined internally with a shelly coat; and sometimes, as in certain shells, it has its outer surface covered with calcareous matter, deposited by some special development of the opercular mantle destined for the purpose, as is the case with cowries and some other shells."

From these observations it appears that the operculum has all the characters of the appendage of the animal which has been usually considered as the shell of univalves and the valves of bivalves:—

"7. That as the valves of bivalves are always twisted in opposite directions, so that each bivalve shell is composed of a dextral and sinistral valve united together by a ligament, so the operculum of a shell is always turned in the contrary direction to that of the shelly valve of the animal to which it belongs, the dextral shell having a sinistral operculum, and *vice versa*. Thus the position of the nucleus of the annular operculum, or the spire of the spiral operculum, is always twisted in an opposite direction from that of the shell to which it belongs, as is the case with the two valves of a conchiferous animal. This is easily observed by comparing the position of the nucleus of the dextral and sinistral genera of *Ampullaridae*, or the spiral operculum of a sinistral malformation of a gastropod with that of one of the normal form. I may observe that, as is the case with spiral shells, when the shell is turned in an abnormal direction, the direction of the operculum is also changed.

"9. The opercula are repaired, when injured or partly broken off, in the same manner and by the same means; and when repaired offer the same external appearance which shells do under similar circumstances.

"The principal difference between the operculum and the valves or shells of the gastropod consists—

"1. In the operculum having no cavity. The cone of which it is formed is either very much depressed, so as to be nearly flat or even concave, as in the annular or subannular operculum, or very much compressed, forming only a spiral band, as in the spiral operculum. The absence of a cavity is a difference only of degree; for the valves of some gastropods (as *Unbrella*, for instance), are so flat as to produce no cavity, and thus greatly resemble the annular operculum of *Ampullaria*, and the flat valves of some *Calyptæ* are like the subspiral operculum of *Littorina*; but the greatest resemblance is to be observed in the small flat valves of some *Gryphæa*, *Ecogyra*, *Chama*, and other genera of bivalve shells, which are attached by one of these valves. These valves are often quite as flat and destitute of any cavity as the operculum of any gastropod; and it is to be remarked that these valves exactly resemble a spiral operculum in shape, the remains of the ligament forming a spiral mark on the outer surface, showing how the valve has rotated on the animal, as the operculum rotates on the foot of the gastropods.

"2. The operculum of by far the greater number of gastropods is only formed of animal matter, so that the operculum appears to consist entirely of what constitutes the periostraca, or *drap marin* of the shelly valves; but the shells of some gastropods, as that of *Aplysia*, *Bulla*, of some land mollusks, and the valves of some bivalves, as *Lingula*, have only a very thin shelly internal layer, strengthening the thick periostraca; while many opercula, like the generality of shells, have a shelly coat deposited on the inner side of the horny periostracal coat; and others have both the inner and outer surface of the animal, or periostracal part, covered with a shelly coat like the lining."

Among the features of the work which the student will hail with pleasure are the tables, which are put into an appendix. They are

not indeed peculiar to this edition, except inasmuch as they are gathered together, and thrown into a more obviously tabular form. They consist of:—1. An artificial analysis of the genera. 2. A history of progressive additions made to this branch of our fauna. 3. A list of species improperly admitted. 4. An examination of the geographical distribution of our land and fresh-water shells (a very valuable little memoir). 5. A list of papers and works on the British species. 6. A similar list embracing the species of continental Europe. 7. A similar list embracing those of North America.

In these valuable tables, the result of so much labour and knowledge, we are sorry to see a surprising carelessness in the spelling of well-known names. In good society it is considered an act of rudeness to mis-spell the name of a person to whom, or of whom, one writes; and this obviously because it seems to imply that the name in question is so obscure that you are not supposed to have ever met with it. If this be a canon of courteous intercourse, much more does it hold with regard to men of scientific reputation, whose names are cited in works of scientific permanence. It is not only in the names of foreigners that Dr. Gray has thus transgressed, but in those of his own compatriots and fellow-labourers. Thus we find Nilson (*Nilsson*), Warrington (*Warrington*), Montague (*Montagu*), Almann (*Allman*), Lansborough (*Landsborough*), &c.

In the illustrations the only additions that we observe are some good woodcuts of the varying patterns of dentition, and the insertion of the names of the species figured at the foot of each plate.

Teneriffe, an Astronomer's Experiment, or Specialities of a Residence above the Clouds.

By C. Piazza Smyth, F.R.S.S.L. & E., Her Majesty's Astronomer for Scotland. Reeve.

Newton long ago suggested that there was "a serene and quiet air, pre-eminently fit for astronomical observation, existing on the tops of the highest mountains above the grosser clouds." But "the most popular physical teacher of the present day" recommends low rather than high positions, because, as he supposes, "mountains have a misty and variable climate."

Scientific men were naturally anxious to ascertain which of these opposing theories was correct, and in May, 1856, the Lords Commissioners of the Admiralty, by the advice of the Astronomer Royal, placed 500*l.* at Professor Smyth's disposal, to defray the expenses of an expedition to the Peak of Teneriffe for the purpose of determining the question. Mr. Robert Stephenson immediately placed his yacht *Titania* at the Professor's disposal; and by the 10th of July, he, his "intrepid wife," an equatorial telescope, and other scientific apparatus, including a photographic instrument (of which more hereafter), had reached the scene of their future operations. Mrs. Smyth and the rough and ready sailors of the *Titania* were the only assistants the Professor took with him; and to this may be attributed in great measure the uniform success of the expedition. In the extemporaneous tents and houses of rough stones in which the little party lived for several weeks more company would have been only *de trop*.

But our readers must not suppose that this book is purely scientific. Professor Smyth,

besides being an astronomer, a geologist, and a botanist, possesses an amount of general information, taste, and literary power which seldom falls to the lot of scientific men. Take, for instance, the description of the first landing at Santa Cruz:—

"Our boat was small and frail, but the Spaniards adroitly eased it on its way, as their surrounding launches rose and fell, swashing up and down with every surge. At length we almost touched the wall, and seizing the instant of being on the point of a wave—we stepped lightly ashore, in a land that told abundantly, though the sea outside had not done so, of a southern latitude, and a tropical sun. The scene that had suddenly burst on us,—who had been undergoing the dismal winter of 1855 and '56 in the British Isles, and had had nothing but heavy rains up to the last day of June,—was chromatically in another hemisphere. It would have been a paradise to a painter from the raw and gloomy north,—colours so dazzlingly rich, yet so harmoniously combined, and such ideal forms met the eye on every side. Men and women and children were there, of whom literal portraits would be perfect pictures—rich, too, in the poetic element.

"The peculiar tint of the Spanish complexion is an easy one to introduce and to harmonize amongst other colours; witness the predilection of even landscape painters for brown trees, brown grass, brown everything. How, too, the hue is set off here by the white garments, glowing in the bright sunlight, and the rich red scarf that the poorest porter wears about his waist. Entering, in the course of the day, a Scotch merchant's establishment in the city, we saw a roll of the most gorgeous scarlet satin—the purple of the Roman emperors—laid out before some peasants; poorly enough clad generally, but by no means disposed to forego indulgence in a piece of finery, manufactured perhaps in Glasgow or Macclesfield, but never there exposed to public gaze. How every painter, and eke every teetotaler too, should thank the men who live on barley and water and silk-finery, in place of spending their means on rich food and strong drink, practically synonymous with riotous and unlovely living.

"Carefully let us pick our way amongst the troops of loaded mules, and the crowds of scarfed men and hatted women, erect in their gait, and brilliant in their coloured garments. The matrons amongst them seem generally to wear a dark or scarlet shawl on their heads, with a black hat above. This shawl is allowed to droop in graceful folds down the back, and the young damsels similarly display a white or yellow kerchief, but are more commonly seen without the hat. The 'head' drapery, indeed, pendant behind, would appear to be a necessary adjunct of female dress in Teneriffe—no doubt because in this burning climate, it protects the spinal marrow of the wearers from the hot and piercing rays of the sun.

"With all these distracting novelties, so particularly interesting after a long voyage, let us be wary that we impale ourselves not on the horns of the oxen that tranquilly, rather than lazily, wend their way along through the crowds of porters, and drag behind them liliputian sledges, with box or barrel placed thereon. What classical models of symmetry are these little oxen; from top to toe they are all of one fine tawny colour. None of those clown-like piebald marks that badge the domestic animals of our Saxon country, preventing a sculptor from fully perceiving the play of the muscles, no such rude blotches appear in these exquisitely natural-looking creatures. In uniformity of colour, and that a tint greatly to be admired, they have all the lordly air of unsensitized denizens of the forest; uniting therewith a tender and honest expression in the full liquid dark eye and pendant eyelids, which so took the fancy of the Greeks.

"A camel, that presently comes swaying along with a grand piano slung on one side, and a heavy bag of sugar to balance it on the other, appears rather out of his element. So he is, too, for though

this eastern end of the island, that looks towards Africa, and in the parallel of the Great Desert be it remembered, is hotter and drier than the western portion—it is yet far from reaching the tension of the continental Sahara. We have here light and heat in perfection, but happily for man, and his comforts, some little moisture also.

"Hence, when walking at mid-day in one of the basalt-paved streets, each glittering stone sending back the full rays of a vertical sun, and the gleaming houses on either side affording a steady white-hot glare of unmitigated sunshine—what words in a northern language can express the delightful emotions, when at the open gateway of one of the semi-Moorish abodes we look in upon a grove of bananas! Throwing a tender green shade over the interior court, their grand and delicately-structured leaves rise up aloft, catch the fierce rays of the sun before they can do mischief, receive them into their substance, make them give out the most varied yellow greens; pass them on from leaf to leaf subdued and softened; pass them on to the oleander's fountain of rose-pink flowers, to the dark green of the orange, the myrtle, and the bay; and leave just light enough at last in the green cavern below—to show the bubbling of some tiny fountain, the welling heart of this fairy oasis. Our fashionables who visit Italy and Spain in winter only, how little do they know of the province of the sun."

Both the natural and artificial characteristics of Santa Cruz must either have utterly changed since Humboldt wrote his 'Personal Narrative,' or that narrative must be very inaccurate; for where Humboldt found "a little town," composed of "houses of dazzling whiteness, with flat roofs, and windows without glass." . . . "built close against a wall of black perpendicular rock devoid of vegetation," Professor Smyth found a handsome city, lordly mansions, with glazed windows, and surrounded by gardens. The "wall of black perpendicular rock" had altogether disappeared, and in its place was a slightly inclined plane of gardens and farms stretching away for miles.

It is a curious fact that the English race has never succeeded in civilizing savages. We take the simpler plan of extermination. The French in Canada, the Spaniards in South America and Teneriffe, on the contrary, have gradually won the aborigines to civilization and the arts of life, and both peoples have become amalgamated, as the Normans did with the Anglo-Saxons. This peculiarity of our race is perhaps owing to our contempt for everything which is not English. Thus, Professor Smyth observes, that while the Spaniards have adopted in Teneriffe the African mode of house building, so admirably adapted to the climate, we have imported into Cape Colony, in nearly equal southern latitude, a style of domestic architecture suited to our cold and misty island. An inner court, environed by the dwelling house, after the Moorish fashion, affords for man and choice plants a safe and cool retreat from the blinding light and sweeping dusty winds of the tropics, whereas an English house is exposed at all points to both.

The splendour and good taste of the churches in Santa Cruz were particularly observable, and might afford hints to our architects in their designs for India and the East:—

"The greater part of the building," says Professor Smyth, "was kept in gloom, deepened by sombre colours; while towards the altar there was one vast blaze of gilded ornamentation. Not vulgarly laid on in flat, meaningless surface, was this profusion of the precious metal; but wreathing and twining, it appeared like an inextricable mass of tropical foliage; yet subdued, methodized,

and conventionalized with infinite tact, to permit an orderly and harmonious effect in conjunction with architecture."

And by a singular refinement in the art of contrast, while the choir in one church blazed with gold from roof to pavement, the altar itself was of pure silver.

On the 10th of July the Professor and his wife rode into Orotava, the town nearest the Peak itself, the yacht having sailed round to meet them and land the scientific instruments, and William Neal and William Corke, two picked men from the crew, to serve as Mr. Smyth's assistants. The packing cases containing the instruments were at once pronounced, even by Mr. Goodall, the excellent Vice-Consul, impracticable for mountain travelling; but the Professor determined to try, and having engaged a multitude of mules and muleteers for an early start on the next morning, he strolled through the town. Scarcely had he proceeded fifty yards when, at the end of a basalt-paved street, he saw rising to a height of seventy feet a "volcanic blowing cone." He returns for his camera, and having charged it with a collodion plate—

"we present, fire—and immediately have secured the cone and the distant hills capped by cloud and terraced with gardens on their flanks; while besides the Spanish cottages and the basalt pavement in the foreground, we have a curious damsel peeping out of a hanging trap-door in one of the wooden windows. (See *Stereograph No. 2.*")

And then we accordingly turn to the stereograph bound into the book; and with the help of the portable "Book-stereoscope" we see a *fac-simile* of the whole scene described by the Professor—the white flat-roofed houses, with the Spanish maidens looking out of the windows, terminated by the cone, with all its lights and shadows, and the crater distinctly visible.

On the 14th of July, at day-break, the whole party, including twenty horses and mules, left Orotava for Guajara, the most convenient point for observation on the outer crater of the volcano. After passing cindery ridges and plains of powdered pumice, and stopping to refresh themselves at a muddy fountain, and catching a glimpse of the great Peak itself, the "crater of eruption," they arrive at the station on the summit of Guajara, the "crater of elevation," at night-fall. The Spanish muleteers discharge their burdens and hasten down the mountain, leaving the little party, consisting of Professor Smyth, his intrepid wife, the two "Titanian" sailors, the Vice-Consul's nephew, and two Spanish guides, to make themselves comfortable for the night on the bare face of the mountain, 9000 feet above the level of the sea. But fortunately the night was calm, and the moon rose; two tents were soon erected, and the party refreshed with basins of hot tea. Jupiter now got up, and appeared to the Professor, accustomed to northern skies, as a brilliant luminary which he had never before seen, so different was the real Jupiter Ammon of African latitudes from him of the "modern Athens."

With the bivouac on Guajara ends Part I. The second division of the book is devoted to the observations made on Guajara, and the incidents of the sojourn there. There was much to be done. The tents had to be protected by thick walls of unhewn lava against the violent hurricanes which were to be expected, and the astronomical and other instruments had to be unpacked and fixed.

All this was accomplished, however, without much difficulty, though with considerable labour; and though the hurricane came and beat against the frail habitations, so judiciously had the Spanish guides and the English sailors done their work, that there were no mishaps of much consequence. The worst enemy was the heat and the dryness of the atmosphere, which cracked and shrivelled up boxes of solid mahogany, as if they had been unseasoned willow, and let in light upon astronomical and photographic operations which should have been shrouded in impenetrable night. Two photo-stereographic illustrations bring the lava rocks, looking like pieces of what is called "pulled bread," the stone walls, the frail tents, and the gigantic telescope, and the little party who had come so far to look through it, bodily before the reader's eyes.

Strangely exhilarating must have been this sojourn in the pure clear air of the mountains, and Professor Smyth seems to have enjoyed it thoroughly, if we may judge by the unflagging spirit and gaiety of his book. Pleasant, too, must it have been to find, in this distant African island, men of cultivation and learning anxious to forward the views of these pilgrims of science:—

"On the morning of the 19th, finding that there were complaints of want of water, and no notion of any way of getting it, but by waiting for a man from below to bring it on a mule—I started off by myself, with a couple of tin-buckets to visit the fountain in the glen—i.e., the wet place by the road-side which had proved of such service on the Monday. To walk on 'foot-back,' as the Dutch say, is the true method of becoming acquainted with a mountain; and I was soon rewarded by finding red, blue, and green lavas, small specimens of obsidian like artificial black glass; and, in the midst of a long slope of loose white pumice, a single lilac-coloured violet. Its underground stem was long, and the root distant from the place where the leaves and flowers appeared—so far had they been carried down by the descent of the soil during the time of their growth. Not being prepared for such a length of root-stalk, and hoping to meet with more specimens, I pulled, and broke it; but not another *Viola Teydensis* did we ever see again.

"Directing my course by the bearings of cliffs on the opposite side of the ravine, I came presently on the water-hole of our ascent. Finding it rather muddy, I explored the neighbourhood, rambling over black lava and green-grey trachyte; until led to the origin of the trickle of water, in a cavern of small depth under a projecting ledge of white tufa.

"On the floor of this hollow, was a little pool decorated with an array of floating spots of purple, as if the place was an abode of the smallest and most beautiful of all water-lilies. But what was my surprise on finding these gems of colour to be dead butterflies (*Polyommatus Webbiana*). An occasional specimen had been sporting in the neighbourhood of our station, but what made such quantities come to drown themselves here, it were difficult to say.

"While engaged in filling the water-cans at a place where broken stones acted as a natural filter, there sounded the little tinkle, tinkle, that announces in Teneriffe the approach of goats. There they came trotting along; the more active ones jumping up all the rocks on their line of march; sometimes disputing with each other for the honour of standing on the very highest; and then running helter-skelter to be the first to arrive at another spot, suitable to their innocent ambition. There were milch goats among them; quickly, therefore, I emptied one of the water-cans, and the herd-boy so readily understood my pantomime, that he at once drove his flock up into the cavern, as a *cul de sac*; and then catching one

goat after the other, poured glorious supplies of its rich milk into the tin vessel.

"I was rather surprised at the time, to see how readily this youth acquiesced in my views; as well as how liberally he supplied me: and not being able consciously to attribute it to my eloquence in Castilian, had been inclined to give all credit to the British silver which I offered him. We learnt afterwards, however, at the station, that a neighbouring Spanish proprietor—an admirer of science—Don Martin Rodriguez, had given all his goat-herds instructions to be civil and obliging to the strangers, if they should fall in with them."

Then begin the astronomical observations, and fully justify all the expectations which had been formed of the advantages of an elevated position and consequent clear atmosphere. Here is the Professor's account of his first observation:—

"A photograph taken late in the afternoon, shows the Equatorial mounted, and approximately in position. Its stand, in the shape of a hollow pier of wood, filled with stones to make it heavy, gives promise of resisting the wind. The two sailors are seated about amongst the packing boxes, looking very tired. One of the guy ropes of the tent crosses the foreground, and in the distance is the magnificent Peak of Teyde, raising its sugar-loaf cone high into the sky. At the foot of the cone, or at an elevation of 11,700 feet, there is still a patch of last winter's snow; and below that begin on every side the streams of lava and pumice, various in colour, but subdued by distance into good keeping for the background of a picture. (See *Photo-Stereograph*, No. 5.)

"Delighted and surprised," says our astronomical journal for eight o'clock on this evening, 'with the marvellously fine definition of all the stars seen in the telescope; they all have such perfect discs and rings with a magnifying power of 150, a thing I have never witnessed once in Edinburgh, with this instrument.'

"Then seeing the constellation of the Great Bear going down behind the Peak, and having a sad hankering after a station upon its slopes,—yet fearful of the propriety of the place, from what a learned traveller has written of the vagaries he saw, while there, in the motions of heavenly bodies,—I watched immersions of different stars with full power of the telescope; trying to detect any symptoms of extraordinary refraction, such as might arise from emanation of hot vapours at the occulting ground.

"This is the result as entered in the journal:—
'At 19h. 55m. Sid. time, saw γ Ursæ Majoris occult behind the Peak of Teneriffe, at about the level of Alta Vista; the star showed a good shaped disc with well-formed rings, through the whole of the time it was watched; though prismatically coloured; red above and blue below. The occultation was sharp and precise.

"At 20h. 18m. 25s., δ Ursæ Majoris went down behind the very crater of the Peak, and similarly with γ .

"At 20h. 58m. 2s., α Ursæ Majoris went down coloured, but with good-shaped disc and rings, behind the sugar-loaf or ash-cone of the Peak; but the immersion was not perfectly instantaneous."

"And this conclusion was appended to the above:—

"Considering that these good immersions took place at altitudes so low as from 0 to 9 degrees, there appears no reason to fear any excessive disturbance of vision by the hot vapours of the Peak, even were the telescope mounted on its flanks. While if thereby a greater height of station could be obtained, immense advantage would result in getting above the dust-haze medium; which seems, to one who is above the clouds, to be the chief remaining obstacle to a clear view of the heavenly bodies."

Some interesting experiments were made at this point of the ascent to ascertain the amount of solar radiation:—

"Amongst other instruments which we had pre-

pared for observation on this day, were two large black bulb thermometers, kindly lent by Mr. Airy, and a smaller one by Dr. Lee, for measuring solar radiation, one of the most characteristic features of a mountain climate. Readings were taken every five minutes during the greater part of the day; and on subsequent occasions, even at one minute intervals, the changes were so rapid. At this work I should soon have been exhausted, had not the second mate of the yacht shown so much taste and talent for observation, as to be able, after a very little instruction, to note accurately the indications of many instruments, which he had never seen or heard of before.

"With this assistance, a larger series of radiation measures, and with higher results, was procured, than had perhaps ever been taken before. On the first day of trial, the sun thermometer rose so rapidly, that before we knew what we were about, Dr. Lee's instrument, a 'patent' one for this sort of observation, by a London maker, and with its tube extending to 140°, was broken to pieces by the mercury passing that temperature. Mr. Airy's instruments, however, not only were graduated to 178° and 180°, but had a bulb at the top of the tube, into which the mercury could pass with safety at higher temperatures; and with these we had the satisfaction of seeing the quicksilver stand at 168° at noon, even on our windy term-day; when the temperature was only 67°.

"High though this result might be, it was far excelled on subsequent days, when the calm atmosphere being more favourable to obtaining a true result, our exposed thermometer rose to 180° by half-past nine o'clock in the morning; and at 12 o'clock, had half filled its spare bulb. What then, the reader may ask, was the maximum heat of radiation on a fair day? Why, although the insufficiency of the instruments prevented our ever actually seeing it there, yet from a comparison of curves, whole or partial, on many different days, it results that on August 4th, the black-bulb temperature in the sun must have been 212°.4, the temperature in the shade being only 60°; thus leaving the enormous quantity of 152° for the effect of sunshine at a height of 8900 feet.

"To chronicle the exact circumstances under which these high results appeared, the photographic camera was employed with effect. Accordingly in *Photo-stereograph*, No 7, may be seen, towards one corner of the telescope enclosure, our stout seaman observer, note-book in one hand, and chronometer in the other, counting seconds up to the moment that he is to take the reading of the exposed thermometer, sharp: after that he will remove part of the tin-foil covered lid from the sheltered instrument, in order to get the temperature of shade. Both thermometers have their bulbs encased in glass bells, from which the air has been extracted by syringes, that project through the boxes below; and show their turned rings neatly under a magnifying glass. Our honest second mate wants no such refinement of method to make him visible; and though he had requested that his portrait might be taken,—in the act of holding up a large sextant, which he was ambitious to learn the use of; and with a smart cap on his head, and in his best jacket, as if he were already a merchant skipper of some degree,—I preferred catching him at an instant when he was thinking of nothing but his duty; with his oldest Guernsey on his broad, manly breast; and his trousers turned up and dusty, from his recent labours at the wall."

To notice Professor Smyth's observations on the questions relating to the "crater of elevation," the "lunar rocks," the sun's radiation, whirlwinds, zodiacal light, the moon's heat, Fraunhofer's lines, and all the subjects which were successfully experimented upon, would occupy more space than we can give to this book, however interesting; but we must find room for the following interesting extract respecting the geological formation of the Peak, and bearing strongly upon the theory of geology in general:—

"Why certain leading geologists will so per- severingly refuse to the earth any secular change, over-riding and permeating its periodical movements, when, from the range of physical astronomy to the boiling of a tea-kettle, we see that any effect of long period, is always mechanically bound up with others of short period,—it were difficult to say. But this Peak of Teneriffe, that is the central cone, or crater of eruption—in the midst of the vast crater of elevation, which will afterwards form an extension of our view,—shows indubitably, secular and periodical qualities co-existent.

"Examination of the streams which have been sent forth within the memory of man, would tell little of secular progression; for they only break out about once a century, the last eruption having occurred in 1798, and the previous one in 1703; and it is necessary, therefore, to question, as we have done, pre-historic phenomena. This method at once enables us to take up a far more powerful position; for what a mighty period must have elapsed, to include alone the thousands of black streams, which now seam the cone on every side; and finding many of these, that are quite beyond the memory of man, untouched by any oxidating influence—we are inclined to wonder what myriads of ages must have further elapsed, to produce the deep red and yellow decompositions, so conspicuous on the surface of still earlier streams. For their blocks are, in the interior, black; and in chemical composition, very similar to the substances last ejected.

"We have here at all events, whatever the absolute dates, results from an immense duration of periodical effects, spread before our eyes; and cannot resist the conclusion which their forms set forth, viz., that a most marked secular change has been wrought out, and that its signs are visible still. Hence, we may state as the general law, holding good on the whole,—not, of course, in every individual instance, any more than that the tide-wave advances uniformly, and without little undulations on its surface,—that the earlier streams were the most copious and most fluid; nay, we may pretty safely add, the hottest also, and that there has been a continual decrease in size and heat ever since. The Peak of Teneriffe has, in fact, been steadily burning out for ages; and is, happily for mankind, no longer in its youthful energy, nor in its primeval vigour of destructive power."

Professor Smyth was not content with Guajara, and determined to ascend the inner cone, or "crater of eruption," and fixed upon a point called "Alta Vista," as the highest to which his equatorial telescope could be transported. It is 10,700 feet above the level of the sea. Here again began the work of building walls of stones, so rough and sharp, that they lacerated the hands of those who carried them, while their nails were split up to the quick by the excessive dryness of the atmosphere. Here is a description of the locale of their encampment:—

"Close round about our walls, there were rocks so curiously fashioned into wild dream-like pictures of contending beasts, that I have had an earnest request from a sculptor, for a copy of one of the photographs of them, to work up into a group. The bear, the fox, the baboon-faced fish of Simon's Bay, a short-nosed alligator with the projecting eyes of a prawn, can be pointed out now by a child in these faithful portraits; and were yet more striking, as we viewed the rocks themselves, when living among them morning, noon, and night.

"Along the tops of the ridges, against a clear sky, the almost sculptured figures were thrown out in powerful relief. There too, the idea of motion of the whole stream was brought out so remarkably, that one could almost believe in the existence still of an undercurrent of molten lava, keeping all the hot slags above it alive and in movement. We could almost fancy we heard them grinding and crushing as they rolled heavily onwards; carrying their tortured freight of Roman emperors

and Don Quixotes, old women and stout aldermen, writhing and twisting, and groaning downward, helplessly on their Tartarean bed. No hope seemed there for any of them; no rest for a moment; nothing but a constant, ceaseless, irresistible progression in a community of pain. The fat man and the lean man were bowed down together in their unutterable fate; and a late well-known Lord Chancellor, with his nose up in the wind, was there, flat on his back, and going head first, down the inevitable cataract of blackened crags.

"In some of the sandstone formations of South Africa, wearing away under the influence of weather, into a thousand fantastic shapes; where there appeared the similitude of birds, and beasts, and plants, and ships in full sail—I have yet seen nothing like the general uniformity of purpose that seemed to prevail amongst the semblances, that would perversely force themselves before us, from out of the chaos of these black lava torrents at Alta Vista.

"Let me add, however, that there was one redeeming figure; that of a Spanish nun, on her knees, with her hands joined as in prayer, and robed in the pendant mantilla. On exhibiting to friends a photograph of this part of the lava stream, magnified and depicted on a screen by aid of a Drummond light, they could hardly understand that 'the nun' was not, either a real statue, or my wife personating one."

Then Mr. Pattinson's equatorial telescope was unpacked, in the presence of admiring Dons from Orotava, who gasped out, when they saw it, *Instrumento!* and then such observations were made as never were made before:—

"Stars of the 16th magnitude as 'a' of α^2 Capricorni, and b of β Equulei, were seen without difficulty, and pairs, only a fraction of a second apart, as ϵ Arietis, λ Cygni, and γ Andromedæ, were separated. In fact all the highest tests that were then known to me, either as to brightness, for a proof of the transparency of the air, or as to closeness, for a proof of its steadiness,—were transcended on this admirable night."

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earth, photography seems to have been invented for the express purpose of rectifying their exploits with the pencil or the long bow.

On the 26th of September the Professor rode from Orotava to Santa Cruz, embarked next day in the *Titania*, and soon lost sight of the Peak, after having, in his six weeks' sojourn, established a vast number of facts of great importance to science, and obtained materials for one of the most entertaining books we have read for many a day. This is the popular narrative of his observations. For the learned portion of the public he drew up a scientific report, in which the details of his experiments were given at length. It was communicated to Government, and read on the 2nd of June last before the Royal Society, who ordered it to be printed in their 'Transactions,' the Admiralty granting 60*l.* or 90*l.* to defray the expenses. The foretaste which Professor Smyth's popular account has given us makes us hope that the Royal Society will not delay longer than is necessary to publish his scientific report.

Agnes, and the Key of her Little Coffin. By her Father. Boston: S. K. Whipple.

JUDGING by the large and cordial acceptance which the 'Memorials of Agnes, and the History of the Key of her Little Coffin,' has met with on the other side of the Atlantic, we certainly cannot give credit to our American cousins for much soundness of judgment, delicacy of feeling, or refinement of taste. Strange though it may appear when we recollect that Brother Jonathan has sprung from the same stock as ourselves, it is nevertheless true, that there is not a page in the volume before us which has not a foreign air about it, something in sentiment or expression which proves that it never could have been a growth of English soil or product of English thought. We are well aware in what extravagances certain denominations of religionists among ourselves indulge, but we do not believe that any of them have ever out-Heroded Herod to the extent displayed on the other side of the Atlantic.

The very title of the book smells of the charnel-house, as does also the Table of Contents with its ominous headings of—Agnes, her Sickness, Death and Burial.—Finding of the Key.—What shall I do with the Key?—Visit to the Grave with the Key, &c. But before proceeding farther we must enlighten the ignorance under which we have but little doubt that the majority of our readers are labouring with regard to the meaning of the expression "coffin key." Be it therefore known that these words are not to be taken in a metaphorical sense, but that—we may as well quote what Agnes' father says in explanation—

"There has been of late years an improvement in the little depositories in which we convey the forms of infants and young children to their last resting-place. Their shape is not in seeming mockery of the rigid swathed body; the broken lines and angles of the old coffin are drawn into continuous lines; they look like other things, and not like that which looks like nothing else—a coffin; you would be willing to have such a shape for the depository of any household article [candles or groceries perhaps!] Within they are prepared with—a pearly white lining; the inside of the lid is dressed in the same way; the name is on the inside, and a lock and key supplant the remorseless screws and screw-driver."

There is certainly something very repug-

nant to the feelings, and but little removed from barbarism, in some of the arrangements connected with the "putting away of our dead out of our sight," but surely a lock (unless it be a spring one) and key is scarcely an improvement upon even the remorseless screws.

The extract we have already made from the book, short though it be, is quite sufficient to show not only the style in which it is written, but also that the whole is a fiction, and that it is not, as it purports to be, a true history of a little child written by its own father. Grief is often awkward or extravagant in its manifestations, but it is easy, to tell, in such a case as this, whether it be real or fictitious; in vain we look for a single trace of genuine feeling amidst the oceans of morbid sentimentality, the ghoul-like prying into the chambers of the grave, and the absurd matter-of-fact details of which the book is made up.

Agnes, the little heroine of this novelette, was not quite one year old when she died, and the father, after saying that he cannot venture to describe her, enters, in the very next sentence, into several minute particulars respecting her, informing us, among other things, "that sights of her asleep, when her mother and he stood over her, with lamp in hand, were as deeply stamped on his mind as *views in the Alps*."

Then it was the "destroyer came" in the shape of *cholera infantum*, and the child died. As she lay in her last sleep, no sight, her father says, could be more beautiful and touching; adding, that the loss of a child probably never awoke such tenderness of love and such grief—a modest assertion, which, notwithstanding the saving word *probably*, other parents who have lost their children may be inclined to dispute. It is the custom, it appears, at American funerals—at any rate among Presbyterians—for the coffin to be opened ere it be placed in the grave, that the friends may take a last look at the remains. Accordingly, Agnes' mother "kneels down and holds her face near the little face for a few moments without a sound, and then draws the white embroidered blanket over the little thing, *for it was a cold day*. Presently a man approached in shirt sleeves and rough working garb, who *respectfully* seemed to intimate, 'We are ready, sir, when you are.'" Then with an effort, the "father" continues, "I turned the key and took it out of the lock." Going to bed that same night, as the bereaved one was taking off his *vest* and emptying the pockets, in a listless mood, of whatever had found its way into them through the day, he drew forth, among other things—a little key trimmed with white satin ribbon. Having thus brought the image of himself vividly before us, he exclaims:—

"Why need I attempt to relate the mingled feelings, with a particular anguish in each of them, with which I stood in the middle of my room, alone, holding the key in my hand?"

"It became necessary at last to put it somewhere. But it was the most difficult thing to dispose of which ever came into my possession. I could neither keep it nor part with it. I wished to be rid of it, and I clung to it. There was a fearful spell about it, and yet it was a charm, a precious treasure, and at the same time a symbol of my agony. I hung it over a picture in my private room—for the night."

It seems as if he had made a mistake in doing so, for knowing it was there made him afraid to go into the private room the next morning, and consequently he lay longer in bed than usual. However, at last he mustered up courage, went into the room, took the

key down, "wrote the little name on the ribbon, the birthday, the dying day, the day of burial, the *path*, and the *number* of the burial place," and having thus "enhanced the value of the priceless treasure by this inscription," he consulted with himself what to do with it. "A large part of the forenoon was spent, *to the neglect of other things*, in fruitless debates," the idea of placing it with his other keys, "of which he had, perhaps, thirty," was revolting. He could not desecrate it by mixing it with drawer keys and keys of trunks—no, that was not to be thought of. His first "conclusion" was he would keep it in his purse, but, for some reason which he does not impart, he gave up that *conclusion*. Then he resolved that he would tie it in his Bible—but yet he was afraid of seeing it too often. "To tie the little key to the little crib, joining the first and last resting-places together," was another project, which was soon abandoned, as was also the fancy to store it up with the child's playthings. "By this time," he continues, "it became necessary for me to take advice on the subject. So he sought his wife, whom he found sitting in her own room before a cheerful blazing fire. He sits down by her side. 'You did not take cold yesterday?' he says. 'No,' she answers; 'it was thoughtful in you to fix that board for me to stand on while they were filling the —.' After a little further conversation of the same cheerful kind, he tells her he has come to ask her what is to be done with the key which he had brought away with him the day before, on which she very sensibly replies. 'Oh! did you bring it away? I wondered whether you had. I almost hoped you had given it to the undertaker.' But when he offers to do so, and reminds her that he will then mix it with other keys, and use it as a spare key when one is lost, she hesitates, and promises to see what can be done. Accordingly, one day when they are out driving together, she says to him that he must give her the little key; and when he asks whether she can keep it better than he, she only answers that 'he must gratify her in that thing without much inquiry,' which, like an obedient husband, he does.

A few weeks after this occurrence Agnes' mother says to her husband:—

"No one will come in this evening; now let us have that conversation about the key."

"It was soon brought down from her private drawer in a *tortoiseshell card-case*, where she had kept it for some time. I had writing materials before me, and a memorandum book, which I proceeded to dedicate to its use by writing these words on the first page—The key of a little coffin."

"Now," said I, "let us proceed somewhat after this method; I will name some use, or reflection, or purpose suggested by the little thing, and when we have discussed it, I will write it down here. Then it shall be your turn to—propose a sentiment."

So they set to work, the husband furnishing the opening sentiments, and then calling upon his wife to contribute hers. After having spent the whole evening in this novel kind of amusement, the husband suggests that they shall begin on the next day, and see what good they can do under the influence of what they have experienced by means of the key; to which the wife assents, adding that she has marked out several plans to be discussed at some future time.

The business of the key being thus satisfactorily settled, the rest of the book is filled with accounts of wonderful conversions per-

formed under its influence, though we must confess that the connexion between the two is sometimes rather difficult to discover. For one of these remarkable conversions we must find place, that our readers may have some idea of the speed with which they are conducted among our "go-a-head" relatives. Agnes' father and mother happen to attend the funeral of a little child of three years old, whose father, Mr. Burke, is a drover and an infidel, a stout coarse-looking man with a *very large head*, his wife being a small delicate woman, a Christian. Mr. M. sits near Mr. Burke at the funeral, and being on intimate terms, asks if he may go with him to the grave:—

"Oh do, Sir," said his wife; 'I know he will be so glad to have you.'

"Go in our carriage," said he; 'will you?'

"Ask your wife to go with us," said she; 'the ride will do her good.'

Rather an original inducement to think of at such a time, certainly; but the proposition is a welcome one, and the party set off for the cemetery. Mr. Burke in the greatest distress, and Mr. M. in vain endeavouring to comfort him, till suddenly he thinks of an expedient to divert his mind, and exhibits the tortoiseshell card-case, upon the contents of which he enlarges at considerable length. Mr. Burke unhappily still continues in a very obdurate, unbelieving, repining state of mind, until they arrive at the enclosure, "where in a remote part he had secured a very cheap lot." Mr. and Mrs. B. with Mr. and Mrs. M. being the only persons present, except the two men who had charge of the burial, the little coffin is laid on the grass, the undertaker takes a key from his pocket, opens the lid, and lets it lean back. While the mother is mourning over her little lost one, the father turns away. Mr. M. puts his arm in his, and tries to bring him to a better state of feeling; at last he succeeds so far that Mr. B. says, "If them men will wait for us, I wish you would, make a prayer." Mr. M. delightedly consents, with the promise that the lid of "the little depository" should be closed while he prays, he being afraid that the sight of the little face will prevent the parents from joining in prayer. "But please don't shut it down tight. If we only had something to keep it a little way open," said she, looking about her." On which Mr. M. takes the tortoiseshell card-case and lays it edgewise, so as to keep the lid open about *three inches*, having it "in his heart to bless God that he had given him that card-case with its contents; it seemed such a privilege to use it in that way." Then, "the grass being short and dry, rendering the ground safe to kneel on, the four kneel round the coffin," and Mr. M. proceeds to utter his oration; prayer it can scarcely be termed, since it is little more than a string of assertions, put forth much in the way that a counsel states a case for his client. The prayer of course works wonders, and on their return home Mr. M. ventures to tell Mr. B. there is something he would like him to do for him, but that he fears he will refuse and say he cannot do it. On which Mr. B. protests that—

"he'll die but what he'll do it, that he always does what he sets out for."

"Tell us what it is," said his wife.

"It is something," said I, 'which will please Mrs. B. more than anything you can do.'

"Set up prayers," said she.

"Yes," I replied, 'Mr. B. after tea take your

and Don Quixotes, old women and stout aldermen, writhing and twisting, and groaning downward, helplessly on their Tartarean bed. No hope seemed there for any of them; no rest for a moment; nothing but a constant, ceaseless, irresistible progression in a community of pain. The fat man and the lean man were bowed down together in their unutterable fate; and a late well-known Lord Chancellor, with his nose up in the wind, was there, flat on his back, and going head first, down the inevitable cataract of blackened crags.

"In some of the sandstone formations of South Africa, wearing away under the influence of weather, into a thousand fantastic shapes; where there appeared the similitude of birds, and beasts, and plants, and ships in full sail—I have yet seen nothing like the general uniformity of purpose that seemed to prevail amongst the semblances, that would perversely force themselves before us, from out of the chaos of these black lava torrents at Alta Vista.

"Let me add, however, that there was one redeeming figure; that of a Spanish nun, on her knees, with her hands joined as in prayer, and robed in the pendant mantilla. On exhibiting to friends a photograph of this part of the lava stream, magnified and depicted on a screen by aid of a Drummond light, they could hardly understand that 'the nun' was not, either a real statue, or my wife personating one."

Then Mr. Pattinson's equatorial telescope was unpacked, in the presence of admiring Dons from Orotava, who gasped out, when they saw it, *Instrumento!* and then such observations were made as never were made before:—

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"It became necessary at last to put it somewhere. But it was the most difficult thing to dispose of which ever came into my possession. I could neither keep it nor part with it. I wished to be rid of it, and I clung to it. There was a fearful spell about it, and yet it was a charm, a precious treasure, and at the same time a symbol of my agony. I hung it over a picture in my private room—for the night."

It seems as if he had made a mistake in doing so, for knowing it was there made him afraid to go into the private room the next morning, and consequently he lay longer in bed than usual. However, at last he mustered up courage, went into the room, took the

key down, "wrote the little name on the ribbon, the birthday, the dying day, the day of burial, the *path*, and the *number* of the burial place," and having thus "enhanced the value of the priceless treasure by this inscription," he consulted with himself what to do with it. "A large part of the forenoon was spent, to the neglect of other things, in fruitless debates," the idea of placing it with his other keys, "of which he had, perhaps, thirty," was revolting. He could not desecrate it by mixing it with drawer keys and keys of trunks—no, that was not to be thought of. His first "conclusion" was he would keep it in his purse, but, for some reason which he does not impart, he gave up that *conclusion*. Then he resolved that he would tie it in his Bible—but yet he was afraid of seeing it too often. "To tie the little key to the little crib, joining the first and last resting-places together," was another project, which was soon abandoned, as was also the fancy to store it up with the child's playthings. "By this time," he continues, "it became necessary for me to take advice on the subject. So he sought his wife, whom he found sitting in her own room before a cheerful blazing fire. He sits down by her side. 'You did not take cold yesterday?' he says. 'No,' she answers; 'it was thoughtful in you to fix that board for me to stand on while they were filling the —'." After a little further conversation of the same cheerful kind, he tells her he has come to ask her what is to be done with the key which he had brought away with him the day before, on which she very sensibly replies. "Oh! did you bring it away? I wondered whether you had. I almost hoped you had given it to the undertaker." But when he offers to do so, and reminds her that he will then mix it with other keys, and use it as a spare key when one is lost, she hesitates, and promises to see what can be done. Accordingly, one day when they are out driving together, she says to him that he must give her the little key; and when he asks whether she can keep it better than he, she only answers that "he must gratify her in that thing without much inquiry," which, like an obedient husband, he does.

A few weeks after this occurrence Agnes' mother says to her husband:—

"No one will come in this evening; now let us have that conversation about the key."

"It was soon brought down from her private drawer in a *tortoiseshell card-case*, where she had kept it for some time. I had writing materials before me, and a memorandum book, which I proceeded to dedicate to its use by writing these words on the first page—The key of a little coffin."

"Now," said I, "let us proceed somewhat after this method; I will name some use, or reflection, or purpose suggested by the little thing, and when we have discussed it, I will write it down here. Then it shall be your turn to—propose a sentiment."

So they set to work, the husband furnishing the opening sentiments, and then calling upon his wife to contribute hers. After having spent the whole evening in this novel kind of amusement, the husband suggests that they shall begin on the next day, and see what good they can do under the influence of what they have experienced by means of the key; to which the wife assents, adding that she has marked out several plans to be discussed at some future time.

The business of the key being thus satisfactorily settled, the rest of the book is filled with accounts of wonderful conversions per-

formed under its influence, though we must confess that the connexion between the two is sometimes rather difficult to discover. For one of these remarkable conversions we must find place, that our readers may have some idea of the speed with which they are conducted among our "go-a-head" relatives. Agnes' father and mother happen to attend the funeral of a little child of three years old, whose father, Mr. Burke, is a drover and an infidel, a stout coarse-looking man with a *very large head*, his wife being a small delicate woman, a Christian. Mr. M. sits near Mr. Burke at the funeral, and being on intimate terms, asks if he may go with him to the grave:—

"'Oh do, Sir,' said his wife; 'I know he will be so glad to have you.'"

"'Go in our carriage,' said he; 'will you?'"

"'Ask your wife to go with us,' said she; 'the ride will do her good.'"

Rather an original inducement to think of at such a time, certainly; but the proposition is a welcome one, and the party set off for the cemetery, Mr. Burke in the greatest distress, and Mr. M. in vain endeavouring to comfort him, till suddenly he thinks of an expedient to divert his mind, and exhibits the tortoiseshell card-case, upon the contents of which he enlarges at considerable length. Mr. Burke unhappily still continues in a very obdurate, unbelieving, repining state of mind, until they arrive at the enclosure, "where in a remote part he had secured a very cheap lot." Mr. and Mrs. B. with Mr. and Mrs. M. being the only persons present, except the two men who had charge of the burial, the little coffin is laid on the grass, the undertaker takes a key from his pocket, opens the lid, and lets it lean back. While the mother is mourning over her little lost one, the father turns away. Mr. M. puts his arm in his, and tries to bring him to a better state of feeling; at last he succeeds so far that Mr. B. says, "If them men will wait for us, I wish you would make a prayer." Mr. M. delightedly consents, with the promise that the lid of "the little depository" should be closed while he prays, he being afraid that the sight of the little face will prevent the parents from joining in prayer. "But please don't shut it down tight. If we only had something to keep it a little way open," said she, looking about her." On which Mr. M. takes the tortoiseshell card-case and lays it edgewise, so as to keep the lid open *about three inches*, having it "in his heart to bless God that he had given him that card-case with its contents; it seemed such a privilege to use it in that way." Then, "the grass being short and dry, rendering the ground safe to kneel on, the four kneel round the coffin," and Mr. M. proceeds to utter his oration; prayer it can scarcely be termed, since it is little more than a string of assertions, put forth much in the way that a counsel states a case for his client. The prayer of course works wonders, and on their return home Mr. M. ventures to tell Mr. B. there is something he would like him to do for him, but that he fears he will refuse and say he cannot do it. On which Mr. B. protests that—

"'he'll die but what he'll do it, that he always does what he sets out for.'"

"'Tell us what it is,' said his wife."

"'It is something,' said I, 'which will please Mrs. B. more than anything you can do.'"

"'Set up prayers,' said she."

"'Yes,' I replied. 'Mr. B. after tea take your

Bible and read the 23rd Psalm, and then kneel down with your wife to pray."

"He turned pale and red alternately; a mighty struggle arose within him; he pulled up the end of his frock coat, and gathered it into inch pieces, pressing them all together, then pulled the cloth out straight, entirely lost in thought, till at last he said, 'Well, wife, I'll do it. . . Come over and pray with us this evening, Mr. M., and help me, and we'll see what we can do.'"

This being just what Mr. M. wished, he went in "after tea," and as soon as he had read a chapter proposed to lead in prayer, Mr. B. engaging to follow, but Mr. M. praying much of the time as in Mr. B.'s name; Mr. M. feeling, after the prayer was concluded, that "the crisis was past, and all was safe." And so it appears to have been; the prayer proved a good investment, for from that time Mr. B. "becomes a consistent Christian, joins the church, and takes a seat in the choir, having a splendid baritone voice." Moreover, he "dresses respectably, and becomes the owner of a provision stall in a large market, with a profitable business."

Having thus attempted to make this precious story condemn itself out of its own mouth, we feel sure that it is quite unnecessary to say a word of the disgust excited in us by a production, to which we should never have thought of directing the attention of our readers, excepting for the significant fact of its having found so much favour at the hands of one section of the "religious public" of America.

A. Castren's Lectures on the Finnish Mythology. Edited by A. Schefner. St. Petersburg.

THIS is the posthumous work of a scholar who, a few years ago, would have passed away from the fields of ethnology and archæology with scarcely a notice of his departure; so little was, then, the interest excited by the languages and literatures which he has illustrated. Who out of Stockholm cared much for Fin; who out of St. Petersburg for Mongol and Mantshu authorship?

Perhaps it may be asked who cares for them now? If we cannot say that the hunger and thirst after things Finnish is inordinately great, we may safely commit ourselves to the doctrine that Fin literature commands the attention of both writers and publishers.

The work before us is only one out of many, all on subjects more or less Fin. The details that have thus given prominence to a language and literature, originally obscure, are worth investigating. In the first place, it has been the policy of Russia, ever since 1812, when Finland was made Muscovite, to encourage the Fin nationality; just as Napoleon, had he made himself master of Ireland, would have encouraged the nationality of the aboriginal Gaels. He would not have loved them better, but he would have loved England, and things English, less. So loved Alexander Finland. He loved it *in odium tertii*; the third party being Sweden. So much development of the Fin was so much depression of the Swede element; for the Fin civilization was essentially Swede.

It is needless to say that all this was easy of accomplishment. Where is the language, literature, or nationality, that, however depressed and chilled, will not arise and expand itself under the fostering care of a powerful patron? Full of vitality by nature it is easily encouraged, easily even forced. In

Finland the spur was given to a willing horse. There were active inquirers into the native history in the last century, in the century before, in all centuries. There was learning and zeal. There was the material, and there were the men to work it. There was the object, and there was the stimulus. The policy, then, of Russia, acting upon the zeal, learning, and patriotism of the Finlanders, is one of the causes of what we may call the Fin Revival. A cause like this is evidently external and accidental.

The others, more independent of circumstances, grew out of the nature of the subject itself. There was something in the language that arrested the attention of the scientific, something in the literature that gratified the taste of the poetical. Both may be noticed.

A doctrine known under the name of the Fin hypothesis has been at the present moment some thirty years before the world; familiar to the Germans, not unknown to the English, possibly whispered among the *savans* of Paris, too often, to their discredit, are the last to know anything of what is done beyond the realm of France, or, at most, the domain of the French language. Thus far, however, has it been propagated. It was developed, perhaps it originated, in Scandinavia; the philological disciples of the acute and learned Rask being its chief promulgators. It has told with great effect upon the archæology of our own country, especially upon those researches which connect themselves with tumuli, excavations, and craniology. The whole doctrine of a præ-keltic stock of Britons and Gaels is part and parcel of the Fin hypothesis. It supposes that there were Fins in the British Isles before there were Irishmen or Welshmen. The same hypothesis is applied to Germany. There was a population anterior to the oldest ancestors of the Germans, and the affinities of that population were Fin. *Mutatis mutandis*, the same applies to Gaul, and Italy, and Greece. The Galli may have been old; old, too, may have been the Ligurians, Ausonians, and Itali; older still the Hellenes. However, for all their antiquity they were only the second on the list. There was a population anterior to them, and that population was Fin. In all these countries it has been swept away. In one part of Europe, however, it still survives. In Spain alone there is a remnant of the ancient population. That the Basks of the Western Pyrenees (partly also of Gascony) are the remains of a population which was once spread from the Loire to the Straits of Gibraltar, and of which traces were to be found beyond the Spanish peninsula, has been generally recognised since the publication of a well-known work of Humboldt's on the subject. It has been generally recognised as a matter of history that the Turdetanians, the Betic, the Lusitanians, and the other populations of the ancient Hispania, against whom both the Romans and Carthaginians had to fight their way to empire, were of the same stock and language as the present occupants of parts of Navarre and Asturias.

This, however, is not the whole of the Fin hypothesis as applied to Spain. The Fin hypothesis goes farther. It connects the Basks with the Laplanders and Finlanders, the representatives of the aborigines of Norway and Sweden. It presumes that at one time, from the Loire to the Cæcægat, all was Fin; of course in a very wide sense of the word. It was Fin, how-

ever, in some sense; Fin as opposed to German; Fin as opposed to Gallic. So that now the scientific imagination has to do this—it has to people all central Europe with a population more unlike its present occupants than it is unlike either the Basks on the south, or the Laps on the north; this population being intermediate in its languages, its physical characters, its moral instincts, and its history to the ancestors of the men who fought for the fueros of Biscay under Zumalacarre, and the ancestors of the men who drive reindeer and fish for salmon within the Arctic Circle. The scientific imagination that comprehends the Fin hypothesis must do this. Aye! and more than this. As is Spain so is India. Its northern tribes belong to a different family; but the populations of the Dekhan are related to those of Siberia and Central Asia, just as the Pyrenean Spaniards are to the Scandinavian Laps and Fins.

This is the Fin hypothesis, or, at least, its most prominent paradox. Its other elements are easy. That the populations of Central Asia, the Turks, Mongols, and Mantshus, were connected with the Fins on one side, and the Chinese and their congeners on the other, wanted no great apparatus of demonstration. With these additions the class, order, group, stock, family, or whatever we choose to call it, took vast and almost inordinate dimensions. The Gauls, the Germans, the Slavonians, the Latins, the Greeks, the Persians, the Armenians, and those Indians who spoke the Sanskrit language, or its derivatives, along with the Americans, Africans, and Malays, were *not* Fin. All the rest of the world *was* Fin. All Europe was Fin; most of Asia was Fin. Not to be Fin was the exception rather than the rule. The advance of the so-called Indo-European populations from the east broke up the continuity of this vast Fin area. In India it drove the older populations southwards, or left them where it found them in the south. In Europe it drove them into the more inaccessible localities. Sometimes these were mountains. Sometimes they were the swamps and treeless wilds of the extreme north. The first preserved the Basks, the second the Laps.

Such is the hypothesis. Now for the deductions. Some were theoretical. It was held, for instance, that as the Fin populations, dominant only in Turkey and China, had, as a general rule, given way before the Indo-Europeans, they were what is called a weaker (*i.e.*, a viler) race. Others were practical. When excavating investigators found anything upon German, Celtic, Latin, or Greek ground too old to be Greek, Latin, Celtic, or German, the aboriginal Fin explained it. Skulls by the hundred have thus been awarded to a stock of which their owners, we believe, never dreamed. So, however, it is. A notable percentage of British remains are attributed to a population older and other than the British. And so it is with Germany, Gaul, and Europe in general. On the truth of the Fin hypothesis we say nothing. It was merely adduced, in the present instance, for the sake of helping us to arrive at the explanation of so strange a phenomenon as an interest in Finland and the Fins.

In saying that this interest is quite new we may, perhaps, make an overstatement. Towards the end of the last century an important discovery gave the languages of

Northern Europe and Siberia a temporary importance. We allude to those contained in the researches of Gyarmathi and Sajnovicz on the affinities that connect the languages of Hungary and Finland. That a population so southern, so energetic, so civilized, so once conquering, so generally interesting as the Magyars of Hungary should be even remotely and indirectly connected with the wandering Lap and the miserable Ostiak was an announcement no less strange than true. The Magyars dislike the connexion. It is real notwithstanding.

Again, whoever has studied, either for the purposes of information or criticism, the *vacata questio* of the cuneiform inscriptions, is aware that whilst one of the three languages which they embody is Indian, and one Semitic, the third is what is called Scythian, Altaic, or Turanian, these terms denoting the languages akin to the Turk, Mongol, Manchu, and Fin in general. But to which of the members of this group did they belong? The presumptions are in favour of their being either Turk and Mongol. Nevertheless, in Mr. Norris's paper on the subject, the paper of an author who well knew what was and was not Mongol and Turk, it is decided that they are Ugrian. Now Ugrian means Fin in the limited sense of the term—Fin after the fashion of the Lap, Magyar, Sirianian, &c., and not Fin after the fashion of the Bask and Tamul. Mr. Norris's paper suggests the doctrine that just as the southernmost Fins in the tenth century moved westward and conquered Hungary, so did their ancestors in some century B.C. move eastward and effect settlements in Persia. Cyrus, according to this view, may have been as truly a countryman of Kossuth as Camillus is of the present Pope. The latest researches of Sir H. Rawlinson on the third language of the cuneiform inscriptions are largely in the direction of Ugria.

Again, another intrinsic cause of the Fin languages having taken of late years an indeterminate importance, lies in the structure of their language. What is meant by Agglutinate is shown in the following extract. Speaking of the extent to which language presents the phenomena of uniformity or multiplicity, Castrén writes thus:—

"This true and living unity philologues have fancied, but they found it in the so-called flexion-languages. Here the conception and its relations are no separate elements. On the contrary, they form a single inseparable word. Many philologues, and amongst them Wilhelm von Humboldt, look upon this unity as a free development from the root without external additions. Out of its root the plant develops stem, leaves, flowers. So does the word out of its root develop the parts which express its formal relations. Others, however, like Bopp, Pott, &c., take an opposite view, and maintain that even in the flexion languages an agglutination has preceded. This is probable. It seems to me, that generally speaking all languages have been, like the Chinese, monosyllabic. In the development of language, nothing is more simple, nothing more natural, nothing more customary than the composition of words. If so, agglutination itself is simply composition; and so, according to Bopp's theory, is flexion as well. Be the relations, however, what they may, it must be admitted that the Altaic languages show in their constitution a certain relation to one another. The agglutination is all but a flexion. The agglutinate words have, in the majority of cases, lost their material signification, and taken upon themselves the character of actual affixes. Almost the only sort of affixes which, in Turk, Mongol, and Manchu still maintain their concrete and material

import, are the personal terminations in verbs. However, in the Fin and Samoyed languages these have taken the character of flexions. Besides this, these languages show a number of other, more or less formal agreements. No word takes a prefix. All the prepositions are postpositions. There is a great number of verbal similarities. Nowhere is there an *umlaut*. The last vowel of the root determines the vowel of the termination. Two consecutive consonants either at the beginning or end of a word never come together. Lastly, as the surest characteristic, the signs of case in the plural number are the same as those of the singular."

All this is true; so true as, in England at least, to be anything but a novelty. What, however, if the Fin tongues be eminently agglutinate? In this case they are great philological studies.

The last influence which has determined the attention of learned men towards Finland is the Fin epic, *Kalevala*. To this we may devote a future article, concluding the present with the following piece of Samoyed fable, specimens of which we have now for the first time before us:—

"Once upon a time there was a village; in the village were seven hundred tents; in the seven hundred tent the children quarrelled. Some of them said, 'We have a better Tadiib than you,' the others said, 'We have a better Tadiib than you.' So the children quarrelled. At last the Tadiibs themselves quarrelled. One said, 'Here is a Tadiib who can hold the moon in the hollow of his hand.' 'No one can do that,' said the other. 'I can,' said the first. 'Show me,' said the second. And the first Tadiib stuck the moon on the hollow of his hand. And so the moon lay in the hollow of the hand of the Tadiib, until the tent became cold, cold, cold, so that the men and women in it could not keep off the cold. They made fire after fire. They first put on a petticoat and then a jacket, then another petticoat, and then another jacket. Still they were cold. So the weaker Tadiib asked the strong one to put the moon back again in the sky. And then the Tadiibs quarrelled again. The weaker Tadiib would not yield. The stronger Tadiib said, 'That man is no Tadiib who cannot stick the sun in the hollow of his hand.' 'And can you do that?' asked the other. 'That can I,' said the first; and forthwith he stuck the sun in the hollow of his hand. Then it became so hot in the tent, that the men and women all but died of the heat. Then said the weaker Tadiib to the stronger one, 'Put the sun back again in its place in the sky.' So the stronger Tadiib put the sun back again in its place in the sky. Then he said, 'Let us be geese, and live for awhile goose-wise.' Said and done. The two Tadiibs changed themselves into geese, and flew to Nova Zembla.

"Each made his tent. The stronger made his tent of linen, the weaker out of reindeer's skulls. And then the spring came, and the weaker Tadiib said to the stronger, 'Let us take to ourselves wives, like other geese.' 'No good in that,' said the other; 'for if we get wives, we shall have young ones, and if we have young ones, men will come and catch us. Far better for us to fly away, for we shall soon lose our wings, and then this place will not be safe for us.' So they flew away and came to a river which was full of geese. The geese kept watch and ward day and night; day or night each kept ward when it came to his turn. The turn came to one of the two Tadiibs, and that was the one who had made his tent of reindeer skulls. So he stood watchman. Whilst he was standing, a hunter came up to him. He was a Samoyed with one eye, who had a dog with three legs. The dog chased the geese, and the Samoyed picked them up. The dog who chased the geese bit the goose that was a Tadiib on the bill. His mate came up to defend him. Three times did the dog bite the goose that was a Tadiib, and three times did the other goose that was a Tadiib save

him. But the dog drove the geese further and further, and the river got narrower and narrower, and the water got shallower and shallower, and the geese could no more dive down under it. 'What shall we do?' said the weaker of the geese, that was a Tadiib. 'We must try our best,' said the other; 'we shall soon come to the sea, and in the sea there is an island, and in that island we can have our own way.' So they swam and they swam on the water, and they ran and they ran on the land, and then they swam over the water again, and then they came to the island, and then they began to eat; the weaker eat grass, the stronger moss.

"And the weaker said to the stronger, 'Eat grass; look at my wings; you have not any; I shall soon fly away and leave you.' Nevertheless the other eat moss, but his wings did not grow, whilst those of the other grew strong, and bore him aloft, fleeing away. He flew and flew till he got to another island, and there he changed himself into a diver, and when he was a diver the children of the island came and killed him. Meanwhile the other left off eating moss and ate grass instead, and his wings grew a yard long. And when his wings were grown a yard long, he flew back to his own country and became a man."

The Land of Promise. Notes of a Spring Journey from Beersheba to Sidon. By Horatius Bonar, D.D. Nisbet and Co.

THIS book, like the Mayor of Coonopolis, is principally remarkable for not being remarkable for anything at all. If Dr. Bonar were not Dr. Bonar, it would not be easy to find any reason why it should have made its appearance. Fortunately, however, there is no doubt as to the identity of the author, and none as to his being a minister of religion, a leading man in his own denomination, and regarded with much, and we doubt not deserved, attachment by his congregation. No doubt, then, it is to the desire of the members of the said congregation to possess some record of their pastor's pilgrimages in oriental lands that we are—shall we say indebted?—for the appearance of this neat volume. Such a desire is no doubt very amiable and natural, and we cannot say a word against the Doctor for having gratified it. But the public—the mass of men who, extraordinary to relate, have in all probability never heard of Dr. Bonar—what will they say to the amiable mediocrity, the diffuse commonplace indispensable to every volume which aspires to the denomination of "nice." Be of good cheer, as in nature, so in literature, the flats are more peopled than the eminences. By a beautiful dispensation, the average author suits the average reader. And the average reader likes his book as he likes his mulled wine; it must not be fervent overmuch, neither must it get cold, but it must simmer pleasantly on, in a gentle and equable manner. And certainly in this sense our Scotch divine's treatise "simmers high in bliss," as one of his own poets has said.

If we are to swell the note of praise, which we should do gladly, it must not be in relation to those points of his book on which it is probable that Dr. Bonar prides himself most. To tell the truth, we think both his observations and his reflections sufficiently trivial. As a simple record of what he did and saw, the volume is pleasing and to the purpose; we find no affectation, and no bad taste. That he achieved no adventures, and saw no more than everybody else, is certainly no fault of his, though it may be deserving of mention out of deference to that numerous though unreasonable class of readers who

had rather be interested in what they read. Even these, however, may, if they have a good deal of zeal and patience, find something to their taste in the topographical part of the Doctor's book. We suspect, indeed, that this is not remarkable for originality. Nevertheless, original or not, the matter we are here presented with is certainly valuable, and contributes a good deal to the illustration of the Scriptures. As, however, it is not particularly entertaining, we shall select a descriptive passage for quotation, the style of which, like that of many other portions of the book, reminds us strongly of Miss Martineau:—

"We approach the sea. The ground has in all directions a crust of white salt, in appearance somewhat like what we had seen in the desert at Ghurundel and Useit, only thicker and more plentiful. The shore is strewn with the debris of trees which Jordan in flood has brought down; twigs, branches, and roots, lying along the beach, all of them well coated with salt. In different parts, the shore is deeply lined with a dark-brown substance, like well-pounded bark, which possibly may be the debris of leaves, or perhaps the seeds and flowers of the tall shaggy reeds which seem to grow plentifully around, and which a south-east wind would waft across the Lake, from the reed-jungles on the shore of Moab. The waters look intensely blue, though as we near them there is a tinge of green perceptible. There is a slight curl over them at present, as a soft breeze has risen, and the ripples drop quietly at our feet, with a thick soppy or greasy froth, which leaves a stain upon the sand. The noon is hot, and besides, we have got down to a level, which makes a sort of tropical climate, as the lake is upwards of 1300 feet below the level of the Mediterranean. We are thirsty, and the water looks cool and tempting; but we know its nature and refrain. Not so my little grey horse, which, though I suppose it has not been here for the first time, still seems ignorant of the lake's true character. As thirsty as ourselves and not so prudent, it rushes into the water and takes a draught; one draught, no more. It shakes itself and turns away. We taste the water and find it nauseous in the extreme. It is not so much salt as acid. Burning bitterness seems better to describe it than salt; burning bitterness, which seizes on lips, and tongue, and palate, leaving for a considerable time the sense of prickliness and inflammation. A single drop will do this; though, of course, the larger the mouthful the more intolerable the sensation. Whether, at night, the waters have the hue of *absinthe*, as some travellers have remarked, I cannot say. That they have the *taste* of *absinthe* by night and by day, I am sure. There is no unpleasant smell, nor any vapour arising from the water, save perhaps at the marshes on the beach. The eye sees almost no difference between this and any salt lake or arm of the sea. Standing on the shore, just at the head of the lake, we look down as far as the eye can reach. We do not see the projecting point of land, which forms a striking feature of the lake, though unrepresented in old maps, and apparently unknown to any geographers beyond the present generation. Though the natives call it *El-Lisan*, or 'the tongue,' it can hardly be the same as that called 'the tongue of the Salt Sea' (Josh. xv. 2; xviii. 19), as it could not have formed the boundary either of Judah or Benjamin. On our left rise the hills of Moab, whose ravines have now become more visible, and which show, here and there, patches of black and green. On the right rises the lower, but not less precipitous range, which flanks the western coast, forming about twenty miles down, the rocky nest of *Ain Jidy*, and ten miles farther, the castled peak of *Es-Sebbel*. We look in vain to the right for the stone of Bohan the son of Reuben (Josh. xviii. 17), which could not be far from the road along which we had descended to the sea."

Of course we do not dream for a moment

of putting the Doctor's book on a par with 'Eastern Life,' yet there is much to show powers of description and observation dissimilar only in degree. These are the best parts—of the rest we can only say that they are very "nice." Before parting with the author, we will let him introduce us to a curious person. Though, in spite of societies and Protestant bishops, the number of conversions from Judaism to Christianity is still exceedingly small, it is doubtless many times greater than that of conversions from Christianity to Judaism. In fact, we did not know there were any of the latter, and have to thank Dr. Bonar for the acquaintance of an American gentleman of the name of Cresson, who actually became a Jew some years since, and entered into a lively controversy with the Doctor, who, however, gave him a complete overthrow. We should question his sanity, and extend the doubt to him of whom the author is now going to speak:—

"In the afternoon we called for a Mr. Johnston, a peculiar individual, but very different from Cresson. He is connected with the south of Scotland, as he told us, though he was born in England. In the 'Narrative of a Mission to the Jews' (p. 146) he is described as living in complete retirement, and waiting for the coming of the Son of Man. Nearly eighteen years have elapsed since this statement was made, and it truly describes the man to this hour; only that he is more of a hermit than ever. He never leaves his house, and hardly sees any one. We had some difficulty in finding entrance to him. Several times had we to knock with force at his rude outer door, well barred and chained. At length he came down the dozen steps that lead in to the court, and opened the gate. As he knew Mr. Crawford he received us kindly, though his manner did seem to imply that he would rather be left alone. He wants to be both Christian and Jew. He wears the long side-rings of the latter as well as their dress, conforming himself in general to their customs. But he will not give up Jesus of Nazareth. He applied to the Jews to be received as a proselyte, and satisfied them on most points. But when asked to renounce Christ he drew back. And at this point he resolutely stands, anxious to be a Jew, yet resolved not to deny the Lord, whom he seems really to know and love. He does no active work, but spends his days in meditation and prayer. I asked him why he did not do some work for Christ. He said he was waiting upon the Lord. I said that he might wait on the Lord, and yet work for the Lord. No, he said, he must wait on the Lord to know what the Lord would have him to do, and he justified himself by the example of Moses, who was commanded to spend forty years in Horeb, doing nothing. And thus he has been waiting for upwards of twenty years. A most guileless man,—quiet and kindly,—with a pleasant benevolence in his face and eye, yet strangely blind to present duty, and misled by a fanaticism into which minds of his passive make are not unapt to fall."

Query whether the Doctor be himself quite free from the fanaticism of Judeolatry? He maintains, at all events, that Palestine is to this day the property of the Jews, and that, upon their return, the present possessors will have to evacuate in their favour, without, as it should seem, any compensation. We fear this doctrine is better adapted to the meridian of elders of the kirk than of lords of session. However, let us part from our author on good terms. Though his book contains little to justify any reputation which he may have acquired for eloquence or ability, there is much from which it may be plausibly inferred that he is an agreeable man.

PUBLICATIONS RECEIVED.

- The History of Herodotus.* By George Rawlinson, M.A. Vol. I. Murray.
History of Ancient Pottery. By Samuel Birch, F.S.A. 2 Vols. Murray.
History of the Life and Times of Edmund Burke. By Thomas Macknight. Vols. I and II. Chapman and Hall.
Impressions of Western Africa; with Remarks on the Diseases of the Climate, &c. By Thomas J. Hutchinson, Esq. Longman and Co.
Sea-Side Studies of Iffracombe, Tenby, The Scilly Isles, and Jersey. By G. H. Lewes. Blackwood and Sons.
The Lyrics of Ireland. Edited and Annotated by Samuel Lover. Houlston and Wright.
God's Heroes and the World's Heroes: being a Third Series of Historical Sketches. By John Hampden Gurney, M.A. Longman and Co.
Animal Physiology for Schools. By Dionysius Lardner, D.C.L. Walton and Maberly.
Appendix to the Lost Solar System of the Ancients. By John Wilson. Longman and Co.
Uncle Jack the Vault Killer. By the Author of 'Round the Fire,' &c. Smith, Elder, and Co.
Uncle Ralph: a Tale. By the Author of 'Dorothy,' &c. John W. Parker and Son.
The Stage and The Company: a Novel. By Mrs. Hubback. 3 Vols. C. J. Skeet.
The Royal Sisters; or, Pictures of a Court. By Mrs. Robert Cartwright. 2 Vols. J. F. Hope.
Year after Year: a Tale. By the Author of 'Paul Ferroll.' Saunders and Otley.
Night and Day; or, Better Late than Never. By John Bennett. Ward and Lock.
Katherine Randolph; or, Self-Devotion. By the Author of 'The Only Daughter.' Edited by the Rev. G. R. Gleig. T. Hodgson.
The Elements of Moral Science. With Questions for Examination. By Francis Wayland, D.D. With Notes and Analysis by Joseph Angus, D.D. Religious Tract Society.
A Plea for the Ways of God to Man: being an Attempt to Vindicate the Moral Government of the World. By William Fleming, D.D. Edinburgh: T. and T. Clark.
An English Grammar: Adapted to the Comprehension of Young Persons. By W. D. Kenny, L.C.P. Routledge and Co.
Songs of the Proverbs. By Peter Livingston. Horne.
The Child's Legend of Saint Valentine. By Mary and Elizabeth Kirby. Norwich: Candall and Miller.
Murmurs of the Stream. By Henry Parkes. Sydney: J. W. Waugh.
The Spirit of Home. By Sylvan. Saunders and Otley.
The Lyrics of Ireland, edited and annotated by Samuel Lover, is a very complete collection of Irish minstrelsy. Among the great names here represented occur those of Swift, Goldsmith, Sheridan, Curran, Moore (though the 'Melodies' are excluded by the law of copyright), Cherry, Lever, Griffin, 'Father Prout,' Barham, the jovial Canon of St. Paul's, Miss Edgeworth, Lady Dufferin, and Mrs. Norton. There are also many of those anonymous strains which live in the recollection of the people, and after suffering the many corruptions incident to oral tradition, are at last caught and fixed in writing, and studied as the genuine expression of a nation's poetic thought. In this collection we find most of the old favourites on which we like to dwell, political, sentimental, and comic. Here the reader will find the true texts of 'The Coolin,' 'Savourneen Dheelish,' 'Bumper Squire Jones,' 'The Groves of Blarney,' the original 'Shan Van Vogh,' which, like the elastic 'Yankee Doodle,' forms the medium through which the people give expression to their political sentiments for the time being, and, not to be one-sided, the original 'Boyne Water,' too, a vastly superior production to the modern ballad. Here, too, will be found Mr. Lover's own songs—songs which have achieved the purpose of all genuine lyrics, and are actually sung, not read, by thousands. Mr. Lover's notes are occasionally extremely interesting. In a note appended to the song, 'The Woods of Caillino,' he endeavours to explain the disputed passage in *Henry IV.*, where Pistol says, "Quality! calen o cuture me. Art thou a gentleman?" Malone first pointed out the fact that Pistol was here humming the burden of a song to show his contempt, and found, in 'A Handful of Pleasant Delights,' a song with this very refrain. The question, now, is the meaning, and Mr. Lover suggests that it ought to be written *Colleen ag astore*, which he translates, 'Young girl, my treasure.' It is not easy to see what this has to do with 'The Woods of Caillino'; but the soul of wit lies in subtle analogies, and matter-of-fact people, because they cannot understand them, accuse the Irish of all sorts of

blunders, which really arise only from the Iberian acuteness in seeing the hidden connexions of ideas. We may perhaps trace the train of thought which ran through Mr. Lover's mind thus:—"It might possibly be supposed that 'The Woods of Caillino' in this song have something to do with *Calen o cuture me*. They have nothing to do with it; but I may as well take this opportunity of throwing light upon the disputed passage in Shakespeare." The translations from the Irish are the least meritorious in the whole collection. Every one must be struck by the remarkable inferiority of the words of all the old popular songs of Ireland to the wild and beautiful melodies to which they are sung; and we cannot help thinking that the latter belong to the palmy days of Irish civilization, when Johannes Scotus astonished the schools with his daring speculations, and Columbanus founded the monastery of Bobbio famed for its learning, and Malachi was the friend of St. Bernard; and that on the decay of learning and taste, consequent upon the Danish and English wars, the old poetry was forgotten and replaced by the tasteless effusions for which Moore and Mr. Lover himself have happily succeeded in substituting more worthy compositions. Certain it is that the variety, the pathos, and the wildness of the Irish melodies are owing to the fact, that they are composed in the ancient ecclesiastical modes.

Upon a lecture delivered in Exeter Hall to the Christian Young Men's Association, Mr. Gurney has founded a series of biographical sketches, which he somewhat affectingly calls *God's Heroes and the World's Heroes*. The world's heroes are Alexander, Richard I., Charles XII., Frederick the Great, Joan of Arc, Gustavus Adolphus, Sobieski, Washington, the heroes of La Vendée, Toussaint, Wellington. God's heroes are Latimer, St. Francis Xavier, Swartz, the Judsons, Carey, Martyn, Las Casas, Howard, Clarkson, Wilberforce, Buxton, Macaulay, Stephen, Lovejoy. These historical sketches are intended *virginibus puerisque*, for family reading for the young, but we should prefer them if their moral purpose were not quite so pronounced.

We have already given our opinion upon the question of introducing physiology as a portion of the general instruction of schools. It seems to us that it is exactly one of the subjects least calculated to strengthen and expand the youthful mind, unless pursued so thoroughly as to usurp the place of more useful studies. But if it is to be taught, Dr. Lardner's *Animal Physiology for Schools* seems to be a plain and useful manual. There are numbers of plates, showing the physical structure of man and the lower animals, and the letter-press is clear and sufficiently full for all but professional purposes. Dr. Lardner thinks it might be used with advantage in girls' schools; we can hardly think so; but it may be useful for grown-up people who wish to obtain a general acquaintance with the structure of the animal kingdom.

Mr. John Wilson's *Appendix to the Lost Solar System of the Ancients* consists of the measurements of the ancient Egyptian obelisks, showing that these monuments were intended to express the principles of astronomical science. The axes of the obelisks were, it seems, proportional to the mean distances of planets from the sun, and distances were represented by the cube, cylinder, sphere, cone, and pyramid. If this be so, what shall we say of the taste of the English in erecting modern obelisks, like the old ones in every respect, but in that one which gave them a meaning? It is like the Chinese exactly imitating our swivel guns, only the swivels would not turn.

The authoress of 'Still Waters' improves as she goes on. *Uncle Ralph* is one of the most pleasing tales of domestic life that we have seen for many a day. Miriam Leigh resembles Ruth Lennox in the determination and strength of her character, but she is not so oppressively faultless; and Leonard Wray, the witty, thoughtless, and extravagant young barrister, is a vast improvement on the awkward and sensitive Jasper Clinton. Mr. and Mrs. Mordaunt, and the four Mordaunts

girls, the sailor son, Roger, and the amiable governess, form a pleasing and not overdrawn picture of an English home. When Leonard Wray gets among them and pits his light wit against Mr. Mordaunt's sarcasms, and uncle Ralph's modest *naïveté*, and Susan's clear good sense, the conversation is really as good as anything of the same kind that we have ever read. The younger girls are admirably hit off, and remind us a little of Florence and Baby Symmons. The plot turns, of course, upon the unexhaustible subject, love. George and Miriam Leigh are the children of a brutal profligate. Their mother, a sister of Uncle Ralph, dies, and their uncle takes Miriam home to his house and promises to provide for her. She is a strange womanly creature, small but beautiful, and very proud and undemonstrative, though with extraordinarily sensitive feelings. Leonard Wray the young barrister, whose kid gloves nearly absorb his patrimony of 300*l.* a year, soon finds out that she is no ordinary person, and they fall in love with each other in a very short time. But Mr. Mordaunt and Uncle Ralph oppose the marriage, and Susan Mordaunt is in love with Leonard; and in the difficulties and miseries and discipline which all these persons undergo before they are finally settled lies the interest of the book. It is short, the characters are consistently sustained throughout, and the interest never flags.

Night and Day is not a good specimen of our cheap literature. It consists of two stories, in which the fates of the idle and the industrious apprentices are contrasted. The scene is laid in the low public houses and thieves' dens of London, and the morality is of the kind inculcated in the 'Newgate Calendar.'

Mr. Gleig edits a Scottish tale, called *Katherine Randolph, or Self-Devotion*. It is a posthumous publication by the author of 'The Only Daughter,' Julian and Katherine Randolph are the twin children of a Minister of the Scottish Kirk. A rich nabob of an uncle determines to make Julian heir to his fortune of twenty thousand a year; but Julian, contrary to his uncle's wishes, obtains a commission in a highland regiment, falls in love with Lady Ida de Mar, the daughter of his colonel, Lord de Mar, and is guilty of sundry frivolities, which so offend the rich uncle that he leaves his money to Katherine, upon which Lord de Mar, who is the villain of the story, by a system of trickery, makes Julian and the world believe that the Lady Ida has consented to marry a stupid and vulgar but rich Major Moira. Upon this a duel ensues between the rivals, Major Moira is killed, and Julian, after flying from justice, is at last taken and brought to trial. Meanwhile it comes out that Lord de Mar had cheated a Mr. Chisholm by means of loaded dice, and had obtained from him a bond for thirty thousand pounds, which bond a General Forbes, having discovered the cheat, obliged his lordship to destroy. His lordship again cheated, and destroyed some other paper instead; and now claims the money from Chisholm's son, who is Katherine's lover. The ancient property of the Chisholms is therefore actually sold, without question, to Julian's nabob uncle, to satisfy such a very questionable claim. But it all comes right at last. The Lady Ida finds out her father's treachery, rushes off to Newgate, and is married to Julian in the "condemned cell," in which her lover, oddly enough, is confined before he is condemned at all. We fancy that there might be difficulties respecting banns or license in such a case, but these are judiciously kept out of sight. Katherine makes over all her property to her brother Julian, except that which was obtained wrongfully from Chisholm, who marries her and returns to the home of his fathers. The law of the case might puzzle a Lord St. Leonard's himself; and as for the criminal trial, the examination and cross-examination of witnesses, &c., it is indeed marvellous. The prisoner and his friends instruct their counsel without the intervention of anything so common as an attorney; the judge rises to address the jury, and permits the counsel for the prisoner to state to them what he could have proved had not Lord de Mar spirited away one of his witnesses; and finally, when the case on both sides is

closed, and the judge's charge has been delivered, the said principal witness is brought into court amid the huzzas of the populace. The whole case is again opened, and the judge and jury and spectators are all carried away with enthusiasm as Julian is triumphantly pronounced "not guilty." The whole story moves, in fact, in a sphere which is far removed from real life or probability. It appeals to that class of readers who care nothing for the nice discrimination of character, but are perfectly satisfied if the lovers are ardent enough, the father cruel enough, the villain sufficiently villainous, the virtuous sufficiently virtuous, and if all meet their deserts in the last chapter.

The Religious Tract Society publishes Dr. Wayland's *Elements of Moral Science*, with questions for examination, notes, and analysis, by Dr. Angus. It seems to be, on the whole, a useful book, but not very accurate. For instance, we read that Scripture "teaches us the precepts, the sanctions, and the rewards of the law of God." Now the "sanction" of a law is the reward and punishment annexed to the fulfilment or breach of it. The subject of conscience, too, is not very satisfactorily treated, and several very important points are taken for granted. The chapter on "Religious Liberty" is all that we can desire, and we commend the following passage to the consideration of Lord Shaftesbury, Mr. Spooner, and the opponents of the Jew bill. Religious liberty, says Wayland, is violated "by inflicting disabilities upon men, or depriving them of any of their rights as men, because they are or are not religious;" and "by placing the professors of any peculiar form of religion under any disabilities; as, for instance, rendering them ineligible to office, or in any manner making a distinction between them and any other professors of religion."

A Plea for the Ways of God to Man is intended to show that the existence of physical evil is consistent with the goodness of God, the existence of moral evil with his holiness, and that the disproportion between crimes and their punishments in this life is not repugnant to his justice. It is a practical moral treatise founded on revelation, and written in the somewhat rhetorical style which the habit of lecturing in public tends to foster.

New Editions.

The Poetical Works of Alexander Pope. Edited by Robert Carruthers. Vol. I. New Edition, Revised. Bohn.
The Antiquities of Athens and other Monuments of Greece, as Measured and Delineated. By James Stuart, F.R.S., and Nicholas Revett. Third Edition. With Additions. Bohn.
Projectile Weapons of War and Explosive Compounds. By J. Scoffern, M.B. Third Edition, Revised. Longman and Co.

THE first volume of *The Works of Alexander Pope*, edited by Robert Carruthers, has just been added to Mr. Bohn's Illustrated Library. The editor's prolegomena, biographical sketches, and illustrative notes are learned and judicious, neither encumbering the text, nor leaving any material allusion unexplained. Of the woodcuts with which the letterpress is interspersed we cannot say much. It is impossible to give a portrait of any value in such a form, and the ladies who pass for "the Misses Blount," and "Arabella Fermor," the heroine of 'The Rape of the Lock,' might be anybody. The present volume contains the *Translations, Imitations of English Poets, the Pastorals, the Rape of the Lock, the Epistles, Epitaphs, Essay on Man, Moral Essays, and Minor Pieces*. We reserve a more detailed notice till the succeeding volumes appear.

We are happy to see that a third edition of *The Antiquities of Athens*, from the measurements of Stuart and Revett, has been called for. The plates, of which there are seventy, are beautifully drawn, and consist of ground-plans, sections, and elevations of the masterpieces of Greek architecture. In the letter-press they are described, and any questions upon which subsequent researches have thrown light are discussed. This volume forms a valuable book of reference and manual of Greek architecture.

It would seem a bad sign for the "Peace Society" that a third edition of Dr. Scoffern's *Pro-*

jectile Weapons of War and Explosive Compounds has been called for. The whole of the first impression was purchased on its first appearance in 1845 by a foreign government, and never reached the hands of the British public. It was this work which first called general attention to the improvements of Minié, Delvigne, and Lancaster to the revolver of Colt, and to the rifled rocket of Hale. But notwithstanding the array of frightful instruments of death which meet the eye on looking over this book, we must recollect that all these ingenious contrivances to kill, by reducing war to a science, place power in the hands of the most civilized nations, and therefore in those which are most likely to use it for the benefit of mankind. Thanks to artillery and the Minié rifle, no horde of barbarians, from the North or the East, could now pour down upon Europe and sweep away the civilization of ages.

Miscellaneous, Pamphlets, &c.

Speech of Captain Eastwick, at a Special Court of Proprietors held at the East India House, January 20, 1858. With Notes. Smith, Elder, and Co.

The Indian Revolt: a Poem. By Frederic E. E. Hooper.

Part I. R. Hardwick.

India and its Future; or, an Address to the People of Great Britain and their Representatives. By A Retired Bengal Civilian. L. Booth.

Address to the Meteorological Society of Scotland. By James Stark, M.D. Edinburgh: J. Menzies.

Report of the Meteorology of Scotland, during the Quarter ending 30th September, 1857. By James Stark, M.D. Edinburgh: J. Menzies.

Lectures on Educational, Social, and Moral Subjects, delivered to the inmates at the Smithfield Reformatory Institute, Dublin. By James P. Organ. Dublin: W. B. Kelly.

Sketches of the History of Creation: a Lecture. By Charles Elam, M.D. Sheffield: R. Leader, Jun.

CAPTAIN EASTWICK has published an excellent speech, delivered at a Special Court of Proprietors, held at the East India House, on the 20th of January last. He defends the Company against the charges so recklessly brought against them, of discouraging the conversion of the natives, and shows by documentary evidence which admits of no dispute, that the Indian Government have done for Christianity all that was consistent with the principles of toleration. Those persons who reproach them with infidelity would seem, therefore, to advocate nothing short of religious persecution.

"A Retired Bengal Civilian" addresses a pamphlet, called *India and its Future*, "to the people of Great Britain and their representatives." His scheme for future operations is as follows:—"The Queen to be proclaimed Empress; Delhi, Cawnpore, Hansi, and other scenes of outrages on Europeans, to be razed to the ground; toleration granted to all religions, but "this shall have no reference to the law of the land, which, having in its view solely the good of the entire community, will, so long as that good is concerned, not respect any peculiar religious observances which individual sectarians imagine may interfere with their tenets." It is not easy to understand the meaning of this sentence, but it would seem to give any individual sectarian the right to put a stop to any religious observance practised by any other. The right of adopting a political successor to be done away with; caste not to be respected; preference given to native Christians in all appointments to Government offices; to disinherit any member of a family on religious grounds to be illegal;—these and other principles of like character should be embodied in a proclamation to the people of India, and should form the principles of our future government. We do not think it likely that the Retired Bengal Civilian will find many partisans among the better informed classes of the community.

Dr. James Stark has published his *Address to the Meteorological Society of Scotland*, read at a general meeting on the 13th of January. In this interesting pamphlet he shows the bearing of the facts ascertained during the last two years on the theory of storms and their periodical recurrence, traces the influence of the sea, the winds, and the gulf-stream upon the climate of our island generally, and especially on the mean temperature of the different districts of Scotland, and claims for meteorology considerable practical usefulness as an

element of sanitary science. Dr. Stark also publishes a *Report on the Meteorology of Scotland*, consisting of tables of observations made during the quarter ending on the 30th September, 1857. We trust that much light may be thrown upon the phenomena of atmospheric changes by the long-expected report of Professor Piazzi Smyth on his observations on the Peak of Teneriffe.

Lectures on Educational, Social, and Moral Subjects, consist of a series of addresses to the inmates of the Smithfield Reformatory Institute at Dublin. In them Mr. James P. Organ treats in a popular style subjects of such large application as 'Air,' 'Water,' 'The Ocean,' 'Temperance and Self-Control,' and 'Life—its Battle, and How to Fight it.' Mr. Organ's bold and homely style, we should think, would be well calculated to arrest and sustain the attention of an audience of convicts, and his pamphlet may prove useful to those who in this country are engaged in the difficult task of humanizing and reforming the inmates of our gaols.

List of New Books.

- Albion's (A.) How to Speak French, 5th ed., fep., cl., 5s. 6d.
 Atkinson's (E. W.) Queens of Prussia, 8vo, cl., 10s. 6d.
 Baird's (W.) Cyclopaedia of Natural Sciences, 8vo, cl., 12s. 6d.
 Bede's (C.) Fairy Tales, 12mo, cl., cheap edition, 4s. 6d.
 Bohn's (N.) New Picture Book, oblong folio, bds., 10s. 6d.
 Bowman's (J. E.) Practical Chemistry, 3rd ed., fep., cl., 5s. 6d.
 Burke's (E.) Life and Times, by T. Macnaghten, 8vo, cl., £1 10s.
 Landed Gentry, royal 8vo, cl., £2 7s. 6d.
 Cousin Harry, by Mrs. Grey, 3 vols. post 8vo, cl., £1 11s. 6d.
 Greasy's (Prof.) Ottoman Empire, 1 vol., 8vo, cl., 15s.
 Dalgairn's (Mrs.) Cookery, 14th ed., 12mo, cl., 3s. 6d.
 Davey's (J. G.) Ganglionic Nervous System, 8vo, cl., 9s.
 Forbes's (D.) Review of the Progress of Physical Science, 8s. 6d.
 Foster's (A. F.) Manual of Geographical Pronunciation, 2s.
 Herb (The) of the Field, 2nd ed., fep., 8vo, cl., 3s. 6d.
 Hewlett's (A.) Sermons and Outlines, 12mo, cl., 3s. 6d.
 Historical Sermons on the Sufferings of our Lord, 12mo, cl., 10s.
 Holy Bible, by Rev. J. McFarlane, with illustrations, 44 ss.
 Hutchinson's (F. J.) Impressions of West Africa, 8vo, cl., 8s. 6d.
 Irving's (B. A.) Commerce of India, post 8vo, cl., 7s. 6d.
 Jebb's (R.) Probate Act, 12mo, cl., 7s.
 Laishley's (R.) British Eggs, square, cl., 10s. 6d.
 Lavenue's (L. S.) Gaston Bligh, 2 vols., 8vo, cl., £1 1s.
 Mariotti's Italian Grammar, new ed., by Gallenga, 12mo, cl., 3s.
 Martineau's (H.) Suggestions towards Government of India, 6s.
 Owen's (Rev. R.) Christian's Table Book, cl., 2s. 6d., gilt, 3s.
 Paterson's (W.) Life, by S. Bannister, 12mo, cl., 6s.
 Patterson's (S. R.) Earth and the Word, fep., 8vo, cl., 3s. 6d.
 Ramsay's (E. B.) Reminiscences, &c., 2nd ed., 12mo, cl., 2s.
 Scofield's (J.) Projectile Weapons, 3rd ed., post 8vo, cl., 8s. 6d.
 Semple (Dr. R. H.) on Cough, post 8vo, cl., 4s. 6d.
 Smyth's (C. P.) Teneriffe, post 8vo, cl., £1 1s.
 Swabey's (M. C. M.) Act to Amend the Law of Divorce, cl., 10s.
 Thomson's (D. F.) Galley Slave and His Daughter, 8vo, cl., 6s.
 Timely Retreat, 2 vols. post 8vo, cl., 2nd ed., £1 1s.
 Torren's (R.) Peel's Act of 1844 Explained, &c., 8vo, cl., 12s.
 Undine, by Author of Night, &c., 16mo, cl., 1s. 6d.
 Year after Year, by Author of Paul Ferroll, 8vo, cl., 10s. 6d.

ARTICLES AND COMMUNICATIONS.

THE EMPEROR AND THE LITERATURE OF FRANCE.

WE cannot be supposed to look on with indifference while the literature of France is being subjected to a system of repression almost unexampled in the history of any nation. Not only are political journals subjected to the most jealous and suspicious censorship, but history, biography, fiction, poetry, must all speak the language most acceptable to the present government, or submit to "the cold chain of silence." M. Villemain, an Academician, and formerly minister at our Court, received the other day a letter from M. Billault, warning him that the government of the Emperor could not suffer the publication of anything offensive in his forthcoming biography of Chateaubriand. The Emperor's personal courage is unimpeachable; but "conscience does make cowards of us all," and no man of any mark in France can produce a literary work but the Emperor asks nervously, Is there no offence in't? And what is the pretence for all this severity, this intolerable interference with freedom of thought in France? That a band of miserable Italian refugees in London have made an atrocious attempt on the Emperor's life. The French press must be destroyed, because Italians in London conspire against the government. The connexion between the two things is not at all obvious. We should rather have supposed that a man raised to power by the suffrages of an overwhelming majority of his countrymen, and strong, as it is said, in the affections of the people, would be glad to give public opinion the greatest possible freedom of action. Conspiracies prosper in the dark, not in the full blaze of

day; and yet the Emperor is endeavouring to close the shutters, and exclude every ray of light from the French public—or if they are to have light at all, he would only convey it to their eyes through a censorial prism, which would suffer none but the rays of coarse red to reach them. And so, with a strange infatuation, he thinks that the proper means for destroying conspiracies in England is to make the punishment more severe. Why, it is precisely in the countries where conspiracy is most severely punished that conspiracy thrives and flourishes. The difficulty is to track and seize the conspirators, not to punish them when you have got them. Once you have caught your hare, it is no such difficult matter to cook it. There is a simple plan, which, if the Emperor would adopt it, would clear England of all evil-disposed foreign refugees, much more effectually than penal laws against historians or threatening acts of Parliament. Let the Emperor retain some sharp, and not over-scrupulous London attorney, accustomed to Old Bailey practice; let this attorney secure the services of our London detectives; let these gentlemen make it their business to be informed respecting the haunts and private habits of all suspicious foreigners; and let them bring these bearded heroes before the magistrates, the courts of law, and the public, by means of the free English press, on even the slightest suspicion. The attorney and the detectives would probably often fail in obtaining a conviction; they might even subject themselves occasionally to actions for false imprisonment. They need not mind this; the legal expenses would of course be as nothing to the Emperor. Their object should be to drag the assassins and their deeds from their hiding-places into the broad daylight of public opinion; and we venture to say that if this course of proceeding were pursued, conspirators and assassins would soon find "perfidious Albion" too hot to hold them. A pertinacious London attorney, with full means at his disposal to subject his victims to the harassing tortures of English law, and with no stronger motives than to swell his bill of costs and gratify his instinctive love of pursuing his victims to the death, would be a more potent safeguard to the Emperor from plots hatched in England than anything that M. Villemain might or might not write in his 'Life of Chateaubriand.'

ON CELESTIAL PHOTOGRAPHY.

THE following interesting paper on Celestial Photography was recently communicated to the Astronomical Society, by Warren De la Rue, Ph.D., F.R.S., &c.:—"At the meeting of the Society on November 13th, I stated that photographic experiments had led me to the conclusion that portions of the moon's surface equally luminous do not affect a sensitized collodion film to the same degree, consequently that the actinic power of light reflected from different portions of the lunar surface is not proportionate to its illuminating power. In confirmation of the view that the actinic power of celestial objects is independent to a certain extent of their luminosity, I have now to bring under the notice of the Society some carefully-performed experiments on the actinic influence of Jupiter, as compared with the moon, the relative difference of brilliancy of these two bodies having been already sufficiently established. It will be remembered, that in a communication which I made to the Society on November 14, 1856, on the occultation of Jupiter, which occurred on the 8th of the same month, it was stated that the pale and evidently greenish hue which that planet presented in contrast with the moon's conspicuously warmer tints (reddish yellow) was very striking; as was also the much greater brightness of most portions of the lunar surface: for Jupiter was not even quite so bright as the crater Pluto (one of the least luminous portions of the moon), which by comparison appeared of a brown colour. Mr. Grove, on the same occasion, remarked that the light of Jupiter was notably less brilliant than that of the moon, and hardly equal to half the intensity of the latter; and also that it was of a

much bluer tint than the moon. Mr. Dawes was also much struck with the difference of tint of Jupiter and the moon; and Mr. Huggins and Mr. Burr found the planet to be dusky as compared with the moon. From the concurrent testimony of several observers with instruments of great excellence and of different apertures, upon an occasion peculiarly favourable for the comparison, it is manifest that the moon is considerably brighter than Jupiter; according to my estimate, it is three times as bright. Recent experience in photographing the moon and Jupiter having given me the impression that the light of that planet, in proportion to its luminosity, possessed considerably more actinic power than that of the moon, I determined on testing the correctness of this view experimentally on the first favourable opportunity. On Dec. 7th the moon and Jupiter being, during a part of the night, at nearly the same altitude, although in different parts of the heavens, I turned the telescope alternately on one and the other body, and thus obtained several photographs (six of each) under almost identical conditions. Generally nine to ten seconds were sufficient for the moon pictures, and twelve seconds for those of Jupiter; hence, although the light of the moon is at least twice as bright as that of Jupiter, its actinic power would appear to be not greater than as from 6 to 5 or 6 to 4. It is not improbable that the blue tint of Jupiter may have something to do with its photogenic power. It may also be stated, the darkest parts of Jupiter's surface came fully out by an exposure which did not suffice to bring out those portions of the moon situated near the dark limb, and consequently illuminated by a very oblique ray; thus confirming an observation already communicated by me. As the night advanced I was able to take pictures of Jupiter in five seconds, in consequence of the planet attaining a greater altitude; and the position of Saturn being favourable for a comparison of its actinic power with that of Jupiter, I turned the telescope alternately on each of these two planets, and found that to produce pictures of equal intensity, the sensitized plate had on the average to be exposed 5 seconds to Jupiter and 60 seconds to Saturn. Hence the chemical rays from Jupiter are twelve times more energetic than those from Saturn—an effect undoubtedly in a great measure attributable to the greater brilliancy of the former planet, but not, I believe, entirely so. The above-mentioned experiments consumed so much time that they only permitted of two trials with a Geminorum on the same night; in the first instance I exposed the plate for 60 seconds, and obtained so intense a picture that I submitted the next plate for only ten seconds to the star's rays: nevertheless, to my surprise, an equally intense image was produced, and of much greater beauty, showing the components as round discs distinctly separated when examined with a lens of moderate magnifying power; and I am inclined to think that two or three seconds would suffice for that star and others of similar brilliancy. As my leisure may permit I propose to make comparative experiments with other double stars, especially with those whose components are different in colour. The photographs of Jupiter and Saturn now submitted to the Society give promise that as the art advances it will prove to be of great service; at the same time it will be seen that they are very far from depicting the details which are represented in hand drawings of the planets, and indeed for such minute objects a long time will probably elapse before photography supersedes the pencil. The instrument which I employ in photography is a Newtonian reflector, of 13 inches aperture and 10 feet focal length, mounted equatorially and driven by clockwork. Up to the present time, the pictures have been produced at the side of the tube, where the light has been twice reflected; I have it in contemplation, however, to remove the diagonal speculum, and to receive the image direct from the great metal, and I have great hopes that I shall not only obtain pictures in less time but of still greater beauty."

GOSSIP OF THE WEEK.

MR. ARTHUR HELPS is, we understand, about to bring out a new tragedy. The title is *Oulita, the Serf*.

The Essays and literary remains, published and unpublished, of the late Rev. R. A. Vaughan, author of 'Hours with the Mystics,' are about to be collected and edited by his father, Dr. Vaughan, who has just resigned the office of Principal of the Independent College. The essays were most of them contributed to the 'British Quarterly.'

We are happy to see that Government has assigned 5000*l.* to Dr. Livingstone, to defray the expenses of his travels, and that he will be accompanied by competent assistants. His starting point in Africa will be the Cape, from thence he will be conveyed in a Queen's ship to the *embouchure* of the Zambese, and thence for three hundred miles up the river in a steam-launch. He will thus commence his expedition *en Prince*. But we have always observed that the success of all such enterprises is in an inverse ratio to the greatness of the preparations.

At a recent meeting of the committee appointed by the educational conference held last summer in London, it was resolved that it is inexpedient to hold a conference during the present year, but that a meeting may be advisable in 1859. The committee also express their opinion that the agencies at present operating for the promotion of education may best exert themselves through the religious communions, under the regulations sanctioned by the Privy Council. Notice will be given of the subjects proposed for discussion at the next conference. On Thursday night the House of Commons, on the motion of Sir John Pakington, agreed to a commission of inquiry on national education.

Lord Campbell's amendment of the law of libel, introduced this week into the House of Lords, makes an important addition to the privileges of the press. No statement in a faithful report of the proceedings in Parliament, or at any meeting convened by sheriffs, mayors, and other public functionaries, or held under authority of an act of Parliament, as for parochial purposes, will henceforth render the publisher liable to an action. The responsibility of any statement supposed to affect personal character, or otherwise injurious, will rest on the speaker and not on the printer. The privilege only extends to political or civic meetings held under the authority of the State, and will not protect the reports of the proceedings of other public assemblages.

Our literary contemporary, who, in the course of his observations on Mr. Thackeray's suggestion and the Literary Fund, has two or three times changed his ground, accuses us of mistaking the meaning of his calculations respecting the relative cost of administering the Literary Fund and the Artists' General Benevolent Association. We made no mistake; we perceived what our contemporary meant, but we perceived also the point which he studiously kept out of sight, and to this our "homely illustration" referred. He tells us, indeed, the relative costs of "relieving" the several persons in distress, but he does not tell us the amount of the relief conferred in each case. When this is taken into account, it appears that the assistance rendered by the Literary Fund, and that rendered by the Artists' Benevolent Association, bear pretty much the same relation to each other, to recur to our former illustration, that roast beef does to water gruel. Taking the years selected by our contemporary for his comparison, the average yearly amount expended by the Artists' Benevolent Association was 775*l.*, while the average of that expended by the Literary Fund was 1356*l.* When it is considered, further, that the principle of relief adopted by the Artists' Benevolent Association amounts, in fact, to granting pensions of 5*l.* and 10*l.* to the wives and families of artists; whereas the Literary Fund investigates each individual case, and endeavours to proportion its grant to the necessities of the recipient, and to place him, once for all, in the way of retrieving his affairs, the re-

lative expense of administering the two charities is sufficiently accounted for. We think that 50*l.* or 100*l.* bestowed upon a literary man to enable him to overcome his difficulties and start afresh, is better employed than in granting a miserable annuity of 5*l.* or 10*l.* to his wife and children after his death.

On Thursday last a deputation from the Society of Arts, among whom we noticed the Marquis of Westminster, Lord Ebury, Professor Owen, the Bishop of St. David's, Sir Thomas Phillips, and other men of note, presented an address of congratulation to the Prince Consort, president of the Society, on the occasion of the Princess Royal's marriage. The address was signed by upwards of ten thousand members, and was read by Mr. C. Wentworth Dilke. His Royal Highness replied as follows:—

I beg you to accept my warmest thanks for your kind congratulations on the marriage of my beloved eldest daughter with Prince Frederick William of Prussia. This union, which, from the education and personal character of the young prince, promises to secure the permanent happiness of our dear child, could not but fill the hearts of both the Queen and myself with joy, and with thankfulness to Almighty God; but we have derived additional satisfaction and pleasure from the universally expressed sympathy, and participation in our joy, by the nation at large. That this sympathy should be re-echoed by your Society, which, during fourteen years has commanded my best wishes, and my feeble assistance which I could render to it, must be most gratifying to me. Gentlemen, these fourteen years, which have seen my daughter grow up from an infant, to become a married wife, transferred to a high sphere of usefulness in a foreign land, to which our most tender affection must still follow her, have also seen children of yours,—I mean the many plans and schemes for the promotion of art, science, and industry which you have originated,—developed themselves, and grow up into independent life and power. Some of these have attracted the admiration of the world, whilst you could only follow them from a distance, with the fond eye of a parent who finds his highest gratification in the success of his offspring. I am glad to find you accompanied on this occasion by the deputations of the many institutions throughout the country with which you have placed yourselves in union, and to have this opportunity of expressing to them my strong sense of the usefulness of their exertions for the promotion of the education of the adult classes in this country. I trust they will at all times freely bring the result of their varied experience to the knowledge of the Society, to whom suggestions coming from them must naturally be most valuable.

At the first examination for commissions in the Guards, the Rifle Brigade, and the Line, held on the 1st and two succeeding days of February, eighty candidates presented themselves. The examination was by papers, which will be referred to the Council of Military Education, and the number of marks obtained by each determined. The Council will report on the merit of the candidates to the Commander-in-Chief, who will confer commissions on the successful ones, according to their relative merits. We presume the highest number of marks will obtain commissions in the Guards. Fancy some clever Mr. Higginbotham forcing his way into the select society of the household troops! The Guards will now be no place for a gentleman!

A scientific mission is about to be despatched by Government to Vancouver's Island, and the Royal and Geographical Societies have been desired and invited to make any suggestions which they may think of importance to the success and usefulness of the expedition.

Dr. Rigaud, late head-master of the Ipswich Grammar school, whose election to the Bishopric of Antigua we announced some time ago, was consecrated, on Tuesday last, in the Chapel of Lambeth Palace, by the Archbishop of Canterbury, assisted by the Bishops of Oxford, Chichester, and Jamaica. Dr. Wordsworth preached on the occasion.

The military discipline of the Roman sentry found suffocated at his post at Pompeii has always been much admired, but it has found its counterpart in England in modern times, if we may believe the following story. The late General Havelock once told his son to meet him at London Bridge, at noon, and forgot all about his appointment till seven, when it suddenly recurred to his mind. He hastened to the rendezvous, and found his son quietly pacing up and down, and calmly awaiting his arrival. Curious, if true.

The Rev. James Anderson has resigned the

office of preacher of Lincoln's Inn. The office is in the gift of the sixty benchers who compose the corporation. The candidates at the last election were Mr. Randall, Rector of Binfield, and now Archdeacon of Berkshire, Archdeacon Manning, and Mr. Anderson, who obtained it by a small majority of votes, chiefly by the interest of the Queen Dowager.

Sir Joseph Paxton has tendered to the present Duke of Devonshire his resignation of the offices he held under the former. He is said to have effected insurances to the amount of 60,000*l.* on the life of his noble patron.

It is a question whether a free peasant is really better off than a serf in a country in which, as in Russia, both public opinion and law protect the bondsman, and give him claims on his master which no freeman can substantiate against the public or the parish. However this may be, the Emperor of Russia has determined to emancipate all the serfs on his estates, and so thralldom or villainage will soon be a thing of the past in Russia, as it is in England; but then workhouses after our model will also be seen in every village.

M. Carvalho, Vice-President of the Academy of Sciences and Belles Lettres of Lisbon, has been elected one of the correspondents of the Academy of Inscriptions et Belles Lettres of Paris.

The Academy of Sciences of Paris held its public annual sitting on Monday last, under the presidency of M. Geoffroy Saint-Hilaire. The names of the gentlemen to whom the Academy awarded the prizes of 1857 were solemnly proclaimed. We notice that the astronomical prize of Lalande was divided between M. Herman Goldschmidt, the well-known amateur astronomer of Paris, for the discovery of four small planets, two of them in one night, and M. Brühns, an astronomer of Berlin, for the discovery of a planet, and the solution of an important astronomical problem. The prize of experimental physiology was awarded to M. Müller of Berlin, for the discovery of the metamorphosis of river lampreys, and the great prize of physical sciences was divided between M. Lieberkühn of Berlin, M. Claparede of Geneva, and M. Lachmann of Brunswick, for researches respecting the metamorphosis and reproduction of liquid animalcules. The Tremont prize for a discovery or improvement useful to science was given to M. Ruhmkorff, a constructor of scientific instruments. Several prizes in medicine and surgery were awarded; but those of statistics and mechanics were not given, no works of sufficient merit on these matters having been produced last year. After the distribution of prizes M. Flourens, perpetual secretary, read a very long and very learned, and yet an extremely interesting eulogium on the late distinguished French physiologist, M. Magendie.

M. Rapetti, formerly of the Collège de France, at Paris, has just brought out a work entitled 'La Défection de Marmont en 1814,' which is creating, we hear, not a little sensation in the political, literary, and military circles of that capital. The late Marshal Marmont, in his 'Memoirs,' naturally endeavoured to relieve himself from the obloquy which attaches to him of having, in the invasion of France by the Allies, in 1814, betrayed the cause he was charged to defend, by giving up the city of Paris in a dishonourable capitulation, and by so manoeuvring his *corps d'armée* as to render it powerless against the enemy. The object of M. Rapetti's book is to demonstrate that Marmont's attempt to whitewash himself is a piece of imposture, and that he was in the eyes of every true Frenchman, and will ever remain so, an unprincipled traitor. The demonstration is made with such an abundance of proof, as to render it perfectly unanswerable; and it is enforced with a power of close yet eloquent argumentation, which many a great lawyer might envy. Annexed to the work are a number of most interesting letters and documents, many of them never before published, which not only tend to confirm the treason of Marmont, but throw great light on other of the very remarkable events which preceded the

downfall of Napoleon. One of these hitherto unpublished letters is from the Duke of Wellington to Marmont, and was written in reply to one of that personage. It is dated Brussels, the 4th June, 1815, and labours to convince Marmont that though, as a general rule, an "honest man" does not fight against his own country, yet that such a man might join the Allies, inasmuch as they were not the enemies of France, but of Napoleon alone. It attempts to console Marmont under the mortification he felt at having had his counsels rejected by the Bourbons, and at not having obtained a command worthy of his rank and talents; and advises him not to make up his mind to go far away from France for any length of time. It even recommends him not to profit by a permission which the Duke had obtained for him to go into Holland, but to remain at Aix-la-Chapelle, where Marmont then was, to see the turn events would take.

An illustrated periodical in the Arabian language has just appeared in Beyrout.

A Swedish translation of the fourth volume of Humboldt's 'Cosmos' (the other three have already appeared) is announced for publication in Stockholm in a few days.

Signor Biosoletto, a chemist and botanist of some repute, who held the office of Conservator of the Botanical Garden in Trieste, died in that town on the 18th January.

A collection of the poetical works of Caroline von Günderode has just been made by Herr Götz, and published at Mannheim. Caroline von Günderode was the daughter of Hector William von Günderode, a Bavarian chamberlain and privy councillor, and a celebrated author of his day. Caroline seems always to have been rather *exaltée*, and to have lived a sort of life of her own, apart from all the ordinary cares and duties of this world. Bettina von Arnheim, whose name is inseparably connected with that of Goethe, was her principal friend. Our poetess, when only eighteen years old, was received into the Chapter of Kronstadt and Hynsberg at Frankfurt, a sort of convent or shelter from the world's rude blasts for Protestant ladies of noble family. Her object was to devote herself to literature, or rather to the poetic branch of it, and, as she expressed it herself, "to occupy herself exclusively with poetry, to look into her own mind as into a mirror, and by self-examination to prepare herself for a higher and better world." At the age of twenty-six, however, she seems to have grown weary of this world, and to have made up her determination to put an end to her own existence. Being on a visit to a friend, Herr Joseph Mertens, of Winkel, in the Rheingau, she collected a quantity of stones, which she placed in a pocket-handkerchief, and meant to tie round her neck previous to throwing herself into the Rhine. Before, however, she could accomplish her purpose, she learned from a surgeon the exact position of the heart, and having stabbed herself with a dagger, was found by a peasant in a neighbouring wood quite dead. Her poems, which are now collected for the first time, are full of pure and noble thoughts, but at the same time overflowing with fantastic imagery, a complete *mélange*, without order or method, of classical allusions, German fairy tales, and Indian sagas, the result of much and very varied reading, completely undigested and given back in a crude form. The volume is illustrated with a portrait of the ill-fated authoress, and a moonlight view of the church in Winkel, in the burial ground of which her body is deposited.

A new stock exchange is about to be built at Berlin, and foreign architects are requested to send in plans. The authors of the three best plans are to receive premiums of 120*l.*, 80*l.*, and 48*l.*

The first two volumes of the long expected *Memoirs* of M. Guizot are advertised to appear in Paris at the beginning of April.

The number of new pieces, literary and musical, presented at the theatres of Paris in the course of last year was 231; and they were produced by 199 authors, and 39 composers of music.

Excavations which have just been made in the immediate vicinity of the town of Vienne, de-

partment of the Isère, in France, have led to the discovery of some very interesting Roman remains. Part of these remains consists of a portion of a street about twelve feet wide, paved with squares of granite, but without a side pavement or a sewer; another part is a small sort of square, surrounded on each side with the bases of columns, such columns having apparently formed part of a portico; and lastly, there is a large room, with the ruins of columns that were placed at the entrance. Vienne was long occupied by the Romans, and the remains in question are believed to have been part of one of the suburbs of the town.

We noticed last week a curious case which was occupying the French tribunals. M. Maquet, a literary man of no great note, asserted that he had a right to an equal share in the fame and in the profits of M. Alexandre Dumas' famous novels. The court decided that M. Maquet was only M. Dumas' paid assistant, that his name should not be placed on the title-page of the edition in question, that he was entitled only to the original sum which he agreed to take, and condemned him in the costs of the suit. This judgment cannot, however, entirely clear M. Dumas from the charge of feeding on the brains of other men. To have even a rough draft of the outlines of your fable ready made for you to work upon, must very much diminish the labour and anxiety of writing.

In the seventh volume of Gibbon's 'Roman Empire,' edited by Dr. W. Smith, the following note occurs:—"In the Treaty of Partition most of the names are corrupted by the scribes; they might be restored, and a good map, suited to the last age of the Byzantine empire, would be an improvement to geography." A German correspondent calls our attention to the fact that the Treaty of Partition has been critically and exegetically treated by Professor Dr. Tafel, in the 'Proceedings of the Munich Academy of Sciences for 1849,' Vol. V. Sect. 2. From these investigations, which have corrected almost all the errors in the MSS., and have fixed the chief geographical points, a chart of the Byzantine Empire might certainly be drawn; but this would be very imperfect, unless it was compared with mediæval maps and authorities, which are now only partly accessible.

FINE ARTS.

THE BRITISH INSTITUTION.

We must congratulate the British Institution on its unexpected and unusual success. From a low point, in a gradually descending scale of merit, it has suddenly risen to the rank of a very interesting and varied exhibition. We know not to whom the fortunate change is due, but we must believe that the personal energies of some friends of the institution have been exerted, as not only in quality, but in the array of names, there is a marked improvement.

Sir Edwin Landseer heads the list with two pictures entirely in his own line, and replete with the interest which his skilful hand is still, we are happy to find, so able to convey. The subjects are not of equal force in the exhibition of canine intelligence, nor equally agreeable in the nature of the traits revealed by the artist; though in delineation of typical form it is hard to put any difference between them. The Dog 'Maida,' in the *Abbotsford Scene* (4), excites compassion, and finds his way at once to our sympathies; whilst *The Two Dogs* (28), are mere varieties of genus, and that is all. Burns could put rhymes into dogs' mouths; but all Sir Edwin's cunning will not give them human expression. The attempt would lower art into caricature, as no one knows better than the great interpreter of animal instincts. The feeling of this impossibility is the touchstone of all similar efforts in less experienced hands.

If the suggestion of some pre-Raphaelite artist had been carried out, and Mr. D. Roberts' eastern landscapes had been all submitted to comparison with the truth-telling, mechanical photograph, we think that the luxuriance of his practised hand

would, perhaps, have been pruned, and that he would not have painted *Tyre* (82) and *Sidon* (76) quite in this fashion. There is a made-up look about the two scenes, which the eye that has been sobered by the process above referred to refuses to accept. We don't believe in all these delicate tongues of land fringed with blue sea and gracefully crowned with ruins, or in these exquisitely graceful curves of shore, and multiplied piles of masonry peering up out of the sea. Less than these would have been sufficient to indicate the foundations of an ancient mole. The painter reminds us of some of our modern orators, who cloy the ear with their facile commonplaces. Half of these details would have been more effective, whilst the figures in front might have been less artificially arranged, and, if we must add, less carelessly and sketchily painted.

Mr. Gilbert, in his really great picture of *Teniers and Rubens* (167), has broken far away out of the bounds of artistic decorum. Here is a stoneware jug, painted with a force of truth, combined with a freedom and manliness of execution, which might be envied by any living artist, and an arm-chair with the fringes and nails of its lining, some painter's bottles and pipkins, a mahl-stick, and various little accessories, treated with the same mastery. But what of the central figure about which these implements are arranged? Rubens himself, though well drawn, and in good character, is nothing but a showy coxcomb; whilst his features are hastily indicated by a few touches, without half the moulding that has been given to some unworthy utensil or bit of furniture. The youthful face of the boy Teniers suffers less from this mode of treatment; inasmuch as a smooth face may be more safely hurried over than a marked one. The other persons present are indicated with equal rapidity. The expressions nevertheless are decided, and the general effect successful. The doublet of the youthful Teniers is not quite so happy in its treatment as some of the other textures, which seem to have fallen into their places by magic, so clear has been the thought and so true the hand.

A conspicuous picture is Mr. Niemann's *Leviathan* (22). The reflections of the night fires on the dark river are most truly rendered, and the effect of the dark hull is imposing. Much of the obscurity, however, which adds to the vague grandeur of this picture is due either to imperfect treatment of details, or else the picture is hung so high as to render them invisible. We may observe that the same subject has been painted by daylight, apparently with great care as to the details of the timbering and cradles, by W. Parrot, *Building of the Great Leviathan* (394).

Louis Haghe is again one of the mainstays of the exhibition, with two of his admirable works in oil. *Peter Boel arranging his Model* (56) is one of the most successful that has yet appeared, though not perhaps exhibiting all that scientific arrangement of light and shade which was discernible in the first that made its appearance. The tone of this picture, however, is not the least of its merits, whilst the rounding and portraiture of the painter's figure, and the delicate free touch with which [the flowers have been inserted, with all the accessories of carpets, armour, and furniture, are more obvious merits which must attract every eye. The companion picture, *The Visit to the Studio* (83) is only not quite so agreeable in effect as the last. This is partly because the light is not so high, and the group not very much concentrated. Peculiarities exist also in the portraiture of the figures, but still the marvellous painting of a carpet on the right, amongst many other features, attests the artist's skill.

Mr. Noel Paton's great picture, *The Triumph of Vanity* (492), we cannot help regarding as a vast mistake. Never did so large an amount of painting involve so little intellectual thought. The machinery, so to speak, is the simplest possible; but the excuse given for bringing upon the canvass a crowding mass of heterogeneous figures is a very shallow one. No poet who ever cast in his own mind an allegorical image of "Vanity" could have

ever produced such a scene as this. Albert Dürer would have planted the betraying goddess on the firm earth, instead of suspending her solid form of flesh and blood, voluptuously clad in a Coën robe, in the air, in defiance of the laws of gravitation. He would have confined the victims to some one or two figures, and thus have concentrated an idea, which is utterly dissipated and lost by this multitude. We are sorry to see so much good painting thrown away—so much ingenious diversity of dress and form, character and age, ending in so unsatisfactory a result.

One of the most remarkable works, to which it is difficult to do adequate justice, is the scene of *Cavaliers and Puritans* (434), by T. P. Holl. The general grouping of this subject, and even its treatment in many particulars, remind the spectator of Maclise. Every figure is theatrical either in dress, or attitude, or action, or expression. But the spirit is so unflagging, and the grouping so ingenious, that great results may be anticipated from the skill of the artist. His motives are at present a little too obvious and perhaps commonplace. Cavaliers are drinking, dicing, drawing swords, kissing the maids, and ogling pretty matrons in demure caps, as cavaliers are always vulgarly supposed to be doing. Puritans, on the other hand, are expounding texts, ejaculating piously over their meals, or arguing divinity. The design, though very energetic, has not a touch of originality. When we come to costumes, devices, furniture, and arms, sufficient praise can scarcely be bestowed upon the abundant resources, and the keen clear drawing. The thin style of painting is very suggestive of Maclise.

Mr. Frank Stone has departed from his usual style of subject, and has contributed a small family painted picture of an old sailor talking to a fisher-lad, with the title *A Yarn* (1). We think the change from the bright-eyed radiant beauties of the French coast will be felt as a loss by the visitor.

Mr. Cooke, another A.R.A., retains his style, and is, if possible, more accurate in drawing, and at the same time daring than ever in aerial effect, in his *Evening on the Lagoon, Venice* (414). This is a splendid harmony of colour, evidently studied with care from nature. There are also two Dutch scenes of the usual character (23 and 121).

Near the higher end of the north room, on the right, is a large landscape by Mr. J. B. Pyne, exhibiting all his accomplished skill, and at the same time defects. His treatment of the middle distance and remote parts is so full of art, so beautiful, that it is sure to gratify the spectator, and atone for the weakness of the foreground. There is no primitive colour in the picture, but little groups and contrasts of secondary tints are scattered artistically here and there, and give a sense of richness not inconsistent with the climate of Wales when a snow-storm is approaching. A few reds and yellows in front, with some bold outline and vigorous painting, would leave nothing to be desired.

Mr. Jutsum's pictures are conspicuous, (143 and 149); feathery, glittering, and verdant as ever. Nature always appears to him in drawing-room costume, artificially arranged and decorated. There is great skill in the management—style even in the manner in which the familiar features of the dame have been transmogrified; and by persons of unpractised taste, or in rooms of a particular description of furniture, these landscapes are doubtless admired.

The story of the *Campbells are Coming* (70), told of Lucknow in September last, which every lady believes with all her heart, and every man sneers at, "I don't believe a word of it," has been illustrated by Mr. Goodall, A.R.A. We beg Mr. Goodall's pardon, he must have believed it, or he never would have imagined the scene so well, or have painted it with so much evident relish. But whether fact or fable, if the difficulty of putting such a vivid, life or death incident upon canvass be considered, we cannot agree in thinking Mr. Goodall's attempt unsuccessful. The action of the wild Scotch lassie, who is frenzied with hope, is no doubt strongly contrasted with the abasement of

the fainting woman below, who can bear suffering or death, but not the shock of a disappointment like this; and then, by way of make-weight, there is the soldier, who masters all his feelings, not by force of will, but by habit of military duty. To have told us all this is no slight merit; and those who condemn the work as theatrical are apt to forget that the task of representing such a scene is just as easy for an actor as it is difficult for a painter. If he had not been a good actor, Mr. Goodall could not have painted it so well. It cannot at least be said that such a scene could not have happened.

A variety of interesting works remain, to which we are unable further to allude, but two remarkable features must be referred to. Mr. Frost, A.R.A., whose smooth and graceful studies of the nude are so well known, exhibits this year a landscape, *On the Allness River, Rosshire* (291). It is apparently aided by a photograph, though doubtless studied on the spot, and is executed with a minute careful touch. Two small paintings, by W. H. Ward, *A Pygmy's Nest and Fruit* (265), and *Fruit, Flowers, and Bird's Nest* (111), are marvels of elaborate microscopic painting. No element of the art has been omitted: outline, colour, massing of light and shade, have all been attended to, and the result is such as has probably never been attained before in this branch of art.

Lord Stanhope's suggestion seems likely to prove a most happy one. The National Portrait Gallery is slowly but surely adding to its objects of interest. The latest additions are a small coloured crayon drawing of Mrs. Elizabeth Carter, the learned translator of Epictetus, taken at an advanced age by Sir Thomas Lawrence; a portrait, large as life, of Sir William Chambers, the architect of Somerset House—the first example of Sir Joshua; a large picture of William Sharp, the engraver, by Lonsdale; a small oval portrait of Captain Cook, taken at the Cape by Webber, the draughtsman of the expedition; and a small head of Fox, the compiler of that very inaccurate work, the *Martyrology*, in which men who were alive and well saw with astonishment that they had been burned to death.

The Royal Commissioners have decided against removing the National Gallery from its present position in Trafalgar-square. We only trust that something less hideous than the present building may be erected to contain our noble and ever-increasing national collection. Mr. Hunt estimates the expenses of the erection at 500,000*l.*, but how can the cost be ascertained till the plan of the building is resolved upon?

Herr Adam, the celebrated Munich battle painter, has arrived in Vienna, commissioned by the Emperor of Austria to paint two portraits, one of the Empress, and the other of Marshal Radetzky, both on horseback. The latter is to be presented to the arsenal of Vienna.

A deputation from nineteen of the principal Prussian towns on the banks of the Rhine met the Prince and Princess Frederick William of Prussia at Aix la Chapelle, and having read a congratulatory address, presented them with a magnificent album beautifully bound. In it were water-colour landscapes by Caspar Schreuer, Schoetter, and Claessen, three of the most celebrated landscape painters of the Düsseldorf school, besides, as final page, a well-executed view of the Castle of Stolzenfels.

Monsieur J. de Vos has purchased Gallait's last picture of the *Death of Leonardo da Vinci* for ten thousand guildens.

Professor Rietschel, the author of so many monumental statues, has been commissioned to execute the monument which is to be erected in the cathedral of Worms in honour of Luther.

The King of Prussia has given orders that Rauch's last work, the most beautiful, it is asserted, of all his numerous pieces of sculpture, should be at once executed in marble.

Some important documents relating to Rubens have been discovered in the State Paper Office by Mr. W. N. Sainsbury. They will shortly be published.

An exhibition of the works of living artists is now open at Lyons. One is to commence at Bordeaux on the 1st of April, and several other of the large towns of France will have exhibitions in the course of the year.

M. Emile Seurre, a French sculptor of some note, and author of the statue of Napoleon which surmounts the column in the Place Vendôme at Paris, died lately.

MUSIC AND THE DRAMA.

MR. ELLA has commenced at an unusually early period his series of evening concerts, and has changed the locality from Willis's to the Hanover Square Rooms. The programme on Tuesday evening presented an excellent selection of classical music, Mozart's Quintet in G minor for stringed instruments was the first piece, the performers being M. Sainton and Herr Goffrie, first and second violins, Messrs. H. and R. Blagrove first and second violas, and M. Paque, violoncello. In Schumann's Quintet in E flat, op. 44, the pianist was Herr Paue. The other pieces, by Beethoven, Mayseder, and Lorenz, gave agreeable variety to the programme. Herr Paue's mastery of his instrument and brilliant execution were displayed in a Tarantella of his own composition. Mr. Ella has made a good commencement of the Musical Union Soirées, which are among the most attractive chamber concerts of the season.

Mendelssohn's *Elijah* was performed by the Sacred Harmonic Society last Friday, and repeated last night, at Exeter Hall, the principal vocalists being Madame Clara Novello, Miss Dolby, Mr. Sims Reeves, and Mr. Santley. The second annual meeting of the Society's Benevolent Institution was held on Tuesday evening, when a gratifying report was presented of the state and prospects of the fund provided for the relief and assistance of necessitous persons who have at any time been connected with the Sacred Harmonic meetings. A collection of 200*l.*, in augmentation of the fund, was announced in the course of the evening. From the vast number of persons coming within the scope of the fund, if it includes all who have been connected in any way with the Society during the long period of its existence, the relief from the fund must of necessity be very limited in amount, and arbitrary in the selection of objects. Instead of charitable donations, might not the principle of mutual assurance and associated benevolence prove more widely useful, since so many thousands of persons are interested in the institution?

Those who witnessed Miss Helen Faucit's refined and truthful rendering of *Lady Macbeth*, at Her Majesty's Theatre, will rejoice to have an opportunity of again enjoying so great a treat. She is engaged to play *Lady Macbeth* at the Lyceum for six nights, Thursday next being her first appearance.

We are happy to see that Mr. Charles Kean has recovered his recent indisposition sufficiently to resume his theatrical duties.

A rather prolific but not very celebrated dramatic author, of the name of Desnoyers, has just died in Paris. He was for some years director of the Ambigu Theatre in that city.

Those who minister to the amusement only of the public generally find it much more difficult to keep than to get. Lablache is an exception to the rule. He is said to have died worth 60,000*l.*—a very pretty sum, as Erskine said, to begin the next world upon.

M. Emile Augier, the newly-elected member of the French Academy, whose reception by that learned body was recorded in our last, has brought out within the last few days, at the Odéon Theatre, in Paris, a comedy in five acts, and in verse, entitled *La Jeunesse*. We learn that it obtained literally a triumphant success, as indeed all new pieces do now-a-days; but that it is sadly deficient in dramatic interest, that its personages are neither new nor interesting, and that its dialogue, though

written in verse, has but small claims to be considered poetical. The subject of the piece is the folly of very young men plunging at the very commencement of their career into ambition, or into an ardent pursuit of wealth, and thereby sacrificing all the freshness, joys, and poesy of youth.

The *Antigone* of Sophocles is to be brought out on the 1st of June, on the stage of the theatre of Herodes Marathinius, at Athens, the complete excavation of which, it is expected, will be terminated in a few weeks. The 1st of June is the anniversary of the King's birthday, and of his accession to the throne. The rehearsals have already commenced, and the Government has undertaken to pay all the expenses which may be incurred.

The first six volumes of the edition of Handel's works which is to contain his operas, oratorios, and detached compositions, are to appear in this and the following year. The works of this great musician, though familiar in England, are many of them entirely unknown in Germany.

Madame Ristori is to appear twice in Hamburg, the first time in the character of *Medea*, the second in that of *Lady Macbeth*. Every place had been taken for days before.

Within the last few days it has been announced that two of the musical celebrities of the day have not entirely taken leave of the public, as was generally supposed. One of these notabilities, Madame Lind-Goldschmidt, is about immediately to proceed to St. Petersburg, where she is to give a series of concerts; the other, Mademoiselle Johanna Wagner, has promised to appear on the Berlin stage for a year longer.

Haydn's *Seasons* was executed at Paris a few days ago, by the Société des Concerts of the Conservatoire. This was only the second time the complete work has been given in that city.

A comic opera in one act, called *Les Désespérés*, by M. Bazin, has been produced at the Opéra Comique at Paris. It is not devoid of sprightliness; but one of its personages is that eternal grotesque Englishman who has been served up times without number on the French stage, and who consequently has become a bore.

LEARNED SOCIETIES.

GEOLOGICAL. — Jan. 20th. — Major-Gen. Portlock, President, in the chair. William Adams, Esq., Ebbw Vale, Monmouthshire, and the Rev. Francis Henry Morgan, M.A., Hemel Hempstead, were elected Fellows. The following communications were read:—1. 'On the Evolution of Ammonia from Volcanos.' By Charles Daubeny, M.D., F.R.S. The author referred to the existence of a chemical compound of titanium with nitrogen, known from the researches of Wöhler and Rose; and pointed out in this paper its bearing on one part of the theory of volcanos—namely, the evolution of ammonia, and the consequent presence of ammoniacal salts amongst the products of their operations. Dr. Daubeny first commented on the hypotheses already suggested by Bischoff and Bunsen, to account for the volcanic production of ammonia—viz., 1st, the decomposition of carbonaceous or other organic substances; 2ndly, the conversion, by the hot lava overflowing the herbage, of the nitrogenised matter present in the latter into ammonia, and the combination of this with the muriatic acid in the lava, giving rise to the sublimation of sal-ammoniac. To both of these hypotheses the author pointed out serious objections. He had himself proposed to account for the presence of ammonia in volcanic outbursts by assuming that the gaseous hydrogen, although incapable of combining with nitrogen under ordinary pressures, might unite with it under that exercised upon it in the interior of the earth; and he still believes this idea to be worthy of consideration, though perhaps it is impracticable to secure by experiment the conditions necessary for the chemical union of these two gases. The affinity, however, which certain metals possess for nitrogen seems to afford more

solid grounds on which to build a theory respecting the production of ammonia. Titanium has been found, by MM. Wöhler and St. Claire Deville, to absorb nitrogen from the air; and the union of heated titanous acid with nitrogen (forming a nitride of the metal) takes place, indeed, with so much energy as to generate light and heat; and thus constitutes a genuine case of combustion, in which nitrogen, and not oxygen, acts as the supporter. Although titanium is evidently present to some extent in most volcanos, the author is not disposed to think that it abounds sufficiently to account for the large quantities of sal ammoniac that are known to occur; but, rather, he argues by analogy that probably not only titanium but other metals, such as iron, and probably even hydrogen, may combine directly with nitrogen in the interior of the globe, under conditions of great pressure and other circumstances likely to modify the nature of those reactions which take place under our eyes. In a postscript the author adverted to the recently discovered fact, that boron, like titanium, has the property of combining directly with the nitrogen of the air, and that the compound which it forms with it also possesses the property of evolving ammonia under the influence of the alkaline hydrates. 2. 'On the Granites of Ireland: Part II. The Granite of the North-east of Ireland.' By the Rev. Prof. S. Haughton, F.G.S. This communication was a continuation of the details of the author's researches in the granites of Ireland. Part I. was published in the 12th volume of the Journal. In this paper Mr. Haughton first treated of the potash-granites; giving their analyses and atomic quotients; and, secondly, described the soda-granites in like manner; drawing the following conclusions from the examination: 1st, that both in Leinster and the County Down, the potash-granites are more constant in composition, both mineralogical and chemical, than the corresponding soda-granites; 2ndly, that the potash-granites appear to be the standard type of granite, from which other granites and crystalline rocks are formed (as more or less overlying and superficial coatings) by the addition of bases; for example, the anorthite syenite of Carlingford, the soda-granites of Newry, and in Leinster the outlying patches of granite between the main chain and the sea; 3rdly, that the potash-granite of Leinster is more persistent in external character than the potash-granites of Newry, although the latter are equally constant in chemical composition. 3. 'On the Classification of the Palaeozoic Strata of the State of New York.' By Dr. J. J. Bigsby, F.G.S. In the synoptical view of the strata and fossils of the palaeozoic basin of New York, read before the Society, Nov. 18, 1857, the author desired to arrange the vast stores of information contained in the Official Reports of the State Geologists of New York in a methodical and accessible form; and in the present communication he treats succinctly of the stratigraphical arrangements hitherto used, and the classification now adopted by himself. This was printed in the abstract of the author's former paper ('Abstracts,' No. 5): it is but little modified from that proposed by De Verneuil; and is mainly characterized by the union of certain sections of the series into natural groups, A, B, C, &c., and by the establishment of a distinct middle Silurian stage, and an equally distant middle Devonian stage. The lithological and palaeontological characters of the several groups of strata are then treated of in succession; their resemblances and differences, in these respects, being carefully noted. From the consideration of the stratigraphical details contained in this and the preceding paper, Dr. Bigsby deduces two main conclusions—namely, 1. That from the Potsdam sandstone to the summit of the Carboniferous rocks, these strata were laid down in comparative quiet; subject to occasional, vertical, variable, secular oscillations, which led to considerable superficial changes. 2. That their elevation, foldings, fractures, and metamorphism were effected after the deposition of the whole; in a single prolonged transaction, and principally in a N.E. and N.W. direction, along the present Appalachian ridges

and their continuation from Labrador to near the Gulf of Mexico. The evidences on which these two propositions rest were next detailed; and the views of the Professors Rogers on these points, and the author's objections, were stated in full. [A life-sized model of the *Dendroperpeton Acadianum*, of the Nova-Scotian Coal-Measures, was exhibited by B. Waterhouse Hawkins, Esq., F.G.S.]

ARCHAEOLOGICAL ASSOCIATION.—Jan. 27th.—S. R. Solly, F.R.S., F.S.A., V.P., in the chair. Frederic G. Hibbert, Esq., of Chalfont Park, was elected an Associate. Mr. Pettigrew exhibited six Roman third brass coins found at Felixstow, Suffolk, sent to him by Miss Westmacott. They were of Victorinus, Tetricus, Rome, Valens, and Gratianus. Roman coins have frequently been found in this place, particularly at a spot known as Walton Castle, which is believed to have been a Roman Castrum. The Rev. Mr. Trapper made a communication in reference to a Decade ring, engraved in the last number of the Journal, and found in Suffolk. These rings are very commonly used by the English Catholics who are unable to read, and serves them in lieu of beads in the exercise of their devotions. Mr. Wakeman sent an amulet bearing the figure and cross of St. Benedict on one side, and a variety of letters on the other, of which it would be difficult to tell the meaning. It was found at the Graig, Monmouthshire. Mr. Fitch exhibited an impression from the matrix of a seal found at the Chapter House, Hereford. It represented a fish, and around S. SIMON. BREDAPONAE. Mr. C. Hammond sent the drawing of a Piscina, early English, discovered in July last upon taking down the south wall of St. Mary's Church, Newmarket. Mr. Gunston exhibited a collection of Roman and mediæval keys. A massive iron one was found in the old Mint. Mr. Forman exhibited a remarkably beautiful steel key, of the time of Henry VII., apparently of German fabric. The web had nine perforations in it, a channel next the pipe, and the edge cut into thirteen deep teeth. The pipe is double at the entrance, and capped by an oblong square abacus, the convex sides of which are wrought in open scrolls. Above this is a circle with richly decorated centre, surmounted by a four-faced stem winding from its base to the summit, and pierced with engraved scrolls. Mr. Blakely exhibited a curious bronze snuff-box, of the time of Queen Anne, ornamented with mother-of-pearl and tortoiseshell. Mr. Syer Cuming read some additional notes on horseshoes, in continuation of his paper in the Journal, and exhibited further illustrations. The paper gave rise to a discussion, particularly in regard to the Roman examples, and as others were proffered for exhibition, the discussion was adjourned to the next meeting. Mr. Vere Irving read an interesting paper on the Iters of Richard of Cirencester.

HORTICULTURAL.—Feb. 2nd.—The Rev. L. Vernon Harcourt in the chair. The following were elected Fellows—viz., W. Atkinson, Esq.; J. Barrieff, Esq.; Mrs. Ingilby; W. Street, Esq.; H. T. Leigh, Esq.; C. C. Coote, Esq.; J. G. Hubbard, Esq.; H. J. Sheldon, Esq.; J. S. Bunce, Esq., M.D.; D. T. Cole, Esq.; L. Booth, Esq.; Major Munn, Jason Smith, Esq.; Miss Mary Luxmoor, J. Penn, Esq.; Mr. J. Cutbush, Mr. F. A. Waite, Mr. J. Dale, and Mr. Hickson. Of Camellias, for which special prizes were awarded on this occasion, E. A. Brande, Esq., Sulhamstead House, Turnham Green, sent a group of six plants, chiefly standard, one or two of them from eight to ten feet in height, and all well flowered and handsome. Though none of them were new, that least known among them was perhaps Mathotiana, a large deep crimson kind, which within the last few years has been gradually making its way, and deservedly, into most collections. The last-named variety also came from Messrs. Chandler, who likewise contributed *Saccos nora*, a pale rose-coloured variety, and a neat small white kind striped with pink, called Jubilee. From Mr. Glendinning of the Chiswick Nursery came Targioni, a little known white sort striped with

pink, and two extremely beautiful new kinds lately introduced from China by Mr. Fortune. Of these, one, which has been named Princess Frederick William, had a white ground colour prettily striped and mottled with rose; the other was called Cup of Beauty, and certainly it would be difficult to find anything in its way more handsome than it was. Its flowers are large, gracefully incurved, and pure white, with the exception of a faint narrow pink streak which ran down the middle of one or two of the petals. Both varieties must be regarded as valuable acquisitions, and cannot fail to become general favourites. The only collection of Hyacinths exhibited came from Mr. Cutbush, of Highgate, whose success in the culture of this flower is now so well known as to need no comment. The sorts shown were Prince Frederick, a double pale blue kind; Norma, single delicate pink; Tour d'Auvergne, double white; Baron Van Tuyl, single, porcelain blue; Prince Albert, a single, nearly black sort; Mrs. Beecher Stowe, single, rose, with the petals faintly edged with white; William the First, single, deep blue; Anna Maria, double, cream; Grand Vedette, single, large flowered, pale blue; Voltaire, single, white; Orondates, single, pale blue; and Pyrene, double, white. Of Miscellaneous plants, Messrs. Jackson, of Kingston, sent an interesting collection, in which were Epacris, two well-grown specimens of Chinese Primrose—viz., the double white and double lilac, and two Orchids, one the East Indian *Calanthe curculigoides*, with a fine spike of pale salmon flowers—a colour rare among Orchids; the other the pretty Japanese *Dendrobium moniliforme*. Messrs. E. G. Henderson, of the Wellington-road, sent a well-flowered plant of *Cyclamen Atkinsi*, a now pretty well-known hybrid, remarkable among other things for being exactly intermediate between two parents, *Persicum* and *Coum*, reported to be hardy; from the same firm also came a plant and cut flowers of *Monochætum ensiferum*, a profuse blooming and very handsome rosy-flowered greenhouse plant, whose merits are now beginning to be universally recognised. It was introduced from the mountains of Columbia by Mr. Linden, a great Belgian collector of such plants. Of fruit, a magnificent basket of Muscat of Alexandria Grapes in an excellent state of preservation, and possessing that rare golden yellow colour which this variety always has when in perfection, was shown by Mr. Hill, gr. to R. Sneyd, Esq.; along with them were also the old white Tokay, a variety not now very highly esteemed; and handsome bunches of Black Hamburgh. Mr. Mitchell, gr. to Lord Wenlock, sent bunches of Black Barbarossa, not large, but in good condition; and Mr. Tillyard, gr. to Visct. Eversley, had Black Hamburgh, well grown, but badly coloured. The last-named exhibitor likewise sent two Antigua Queen Pine Apples, a quantity of Ne Plus Meuris and Beurre Rance Pears, fine specimens, and both in excellent condition; and a dish of American Cranberries. The following Apples—viz., Court Pendu Plat, large, and finely coloured; Ribston Pippin, Dumelow's Seedling, and three unnamed kinds were contributed by the gardener to H. O. Nethercote, Esq., Moulton Grange, Northampton. Vegetables were confined to dishes of White and Red Ash-leaved Kidney Potatoes from Mr. Tillyard, gr. to Lord Eversley, and a "new sort of Kale, called Cottager's Kale," from Mr. Turner, Royal Nursery, Slough. The last might be stated to be an extremely good variety of Winter Green. In appearance it resembles Brussels Sprouts; but the little Sprouts do not "heart" as in that kind of Cabbage, but remain open. Some of them, however, showed a tendency to "cabbage," and from such a beginning it might easily be conceived Brussels Sprouts might in time be obtained. It is said to be very hardy, a good cropper, and very delicate when cooked—a character which we can say from personal knowledge it richly deserves. It is far more delicate than Brussels Sprouts. Among miscellaneous subjects was a hot-water table apparatus for small greenhouses, to be heated by gas, from Messrs. Thomson, of Dalkeith. In consequence, however, of no description or sectional

plan of the contrivance having been forwarded with it, no opinion of its merits could be formed. Specimens of patent birch and other brooms for various purposes, but more especially for clearing lawns of cut grass, leaves, &c., were exhibited by Mr. Henderson, landscape gardener, &c., Dunkeld. Some of these brooms are flat; others are round. In working them they are moved right and left in front of the operator, so as to sweep the grass into ridges on either side of him, and with a long handle, it is said, he can in this way clear from fifteen to eighteen feet wide at a sweep. The point in connexion with them most worthy of notice is, that they have iron heads or clips into which the material forming the broom is placed, and kept firmly in position by means of screws, thus rendering it easy at any time to speedily remove the old broom and replace it by a new one. The chief cost, therefore, is that of buying the broom heads. Finally, from Mr. Smith, of 3, Queen's-road, East Chelsea, came various garden pots made of a very porous clay which burns a pale stone colour. These pots had grey hands round them, which it was stated are useful as "tell-tales," inasmuch as their colour sensibly deepens upon the pot being charged with water, while on the other hand they regain their original pale grey colour after the water has disappeared. To the inexperienced, therefore, this may offer a useful hint as to the state of the soil about the roots of their plants. From the garden of the Society came a brace of Lady Antrobus Cucumber, and various plants, among which was the pretty golden-yellow flowered *Berberis nepalensis*; although hardy, this does best under glass, for when out of doors its large and handsome leaves are apt to get disfigured and broken by rough winds. It was announced that packets of vegetable and flower-seeds are now ready for distribution among such Fellows as wish to receive them.

ANTIQUARIES.—Jan. 28th.—The Earl Stanhope, President, in the chair. The ballot was taken for the election of a Director, and Augustus Wollaston Franks, Esq., was chosen to fill that office by the unanimous vote of the Fellows present. The President nominated, as Auditors of the Society's accounts for the past year, John Bruce, Esq., V.P., Lord Aveland, Sir John Boileau, Bart., and James Whatman, Esq., M.P. The Rev. Thomas Hugo exhibited the lower portion of a bronze scabbard recently found in the Thames. Mr. John Hewitt exhibited a photograph of the base of Trajan's column, among the groups on which is a representation of chain armour, hitherto unnoticed by writers on military antiquities. The Treasurer presented a drawing and photographs of mural paintings lately discovered on the wall of the south aisle of the church of Mentmore, Bucks, one portion representing the *Murder of à Becket*, the other the *Virgin instructed by St. Anne*. Dr. Thurnam communicated drawings of a stone mould for casting rings of bronze for horse-trappings, found at Camelford, and now preserved in the Museum of Practical Geology. Mr. William Hardy exhibited photographs of two charters of the Empress Maud, from the originals preserved among the archives of the Duchy of Lancaster. These charters have the seals appended, with the legend MATHILDIS . DEI . GRATIA . ROMANORVM . REGINA . and are of considerable interest from their having been granted to the famous Milo Fitzwalter de Gloucester, Constable of England and lineal ancestor of the Bohuns, whose heiress became the wife of Henry Bolingbroke, and mother of King Henry V. The concluding portion of Mr. Wylie's translation of the Abbé Cochet's 'Notices of the Anglo-Norman Cemetery at Bouteilles, near Dieppe,' was read. This portion comprised descriptions of the leaden crosses inscribed with the formula of absolution found in several of the graves.

Feb. 4th.—Joseph Hunter, Esq., V.P., in the chair. Mr. H. E. Hoole, Mr. Titus Lewis, and the Rev. John Kenrick were elected Fellows. Mr. Franks exhibited a bronze sword-blade, a bronze celt, and an iron sword-blade, all found in

the Thames above Westminster-bridge. Mr. J. Thomas Akerman exhibited rubbings of sepulchral brasses in the churches of Witney and Swinbrook, Oxon. One of these is of Antony Fettyplace, who died in the year 1510. Another is of a female member of the Wenman family. The Rev. H. M. Searth communicated remarks 'On some Curious Sculptured Monuments in Langridge Church, near Bath,' one of which is an early example of the Virgin seated with the Infant Saviour in her lap. Mr. B. B. Woodward read the remainder of his paper, 'Illustrations of the Reformation, the Civil Wars, and of the History of Church Rates from the Account Books of the Churchwardens of the Parish of St. Mary, in Bungay.'

SOCIETY OF ARTS.—Feb. 3rd.—The Right Hon. the Earl of Shaftesbury in the chair. The following gentlemen were duly elected Members:—Messrs. F. W. Everett, Capt. Wm. Gray, M.P., Spencer Herapath, H. Laxton, T. D. Rock, A. Williams, and Nicholas Woods. The paper read was, 'On House Accommodation, its Social Bearing, Individually and Nationally,' by Mr. Robert Rawlinson, C.E. Having adverted to the unhealthy condition of the dwellings of the poor, Mr. Rawlinson suggested as a remedy for the evil thereby caused, that in parishes, corporations, or separate districts, there should be an inspector of nuisances appointed; and that upon an outbreak of contagious fever, small-pox, or other zymotic disease, the parish doctor, local medical officer, or local inspector of nuisances, should have power to inspect the premises, and report to the local authorities. He also suggested that there should be local power to insist on proper means of ventilation to all cottages and room tenements, and that lime washing, subsoil and surface draining, might be ordered, or might be executed where required. A discussion ensued, in which Mr. James Caird, M.P., Dr. Wyld, Dr. Walter Lewis, Mr. Scott, Mr. G. F. Wilson, F.R.S., Mr. Tottier, the Chairman, and others took part.

Feb. 10th.—William Fairbairn, Esq., F.R.S., in the chair. The following gentlemen were duly elected Members:—Rev. W. Acworth, Messrs. Henry Austin, James Brunlees, C.E., Thomas Little, F. P. Segnier, and William Watton. The paper read was 'On the Application of Steam Power to the Cultivation of the Soil,' by Mr. J. Algernon Clarke. Leaving the application of steam power to what might be termed the mill-work of the farm, such as thrashing, cutting, grinding, &c., Mr. Clarke directed attention to the operations in the field, and chiefly to that of breaking up the soil, and the preparation of the seed-bed, these being the main objects to be accomplished in steam cultivation. He proceeded to review the existing implements, observing that there was no doubt that a steam-plough was capable of instant and universal adoption; he referred specially to the traction-engine, the proposed system of "guideways" or rails, the expense of which would, he thought, prevent their adoption, and also to the windlass and rope as a means of transmitting power from the engine to the implement. Under ordinary circumstances he thought that the adoption of the shifting engine and windlass, moveable along the headland, was one of the best steps taken for cheapening the operation of steam-ploughing. He concluded by briefly alluding to the recently proposed methods of digging the ground by rotatory implements, and described a plan of his own invention for carrying this out more effectively. A discussion ensued, in which Mr. I. J. Mechi, Mr. J. Allen Ransome, Mr. Newton, Mr. John Fowler, Mr. William Smith, the Chairman, and others took part.

R. S. OF LITERATURE.—February 3rd.—The Lord Bishop of St. David's, President, in the chair. Mr. Vaux read part of a paper by Dr. Hermann, communicated by Dr. P. Colquhoun, 'On the Eventful Life of Gustavus III. of Sweden,' in which the author traced the course of events which led to the assassination of that monarch. The paper will be continued at a future meeting.

Mr. Vaux called the attention of the Society to a paper, which had been recently read by M. de Sauley, in which he imputed to the members of the Society gross ignorance of ancient history, in confounding together the two queens of Halicarnassus, who were each named Artemisia, but who lived at intervals of more than one hundred years. Mr. Vaux stated that no such mistake was made in the paper alluded to; to the younger Artemisia was rightly attributed the building of the mausoleum in honour of her deceased husband Mausolus; but it was remarked, that an alabaster vase, bearing the name of Xerxes in the cuneiform characters, which was found by Mr. Newton among the debris of the mausoleum, might not impossibly have been the gift of that Persian monarch to the elder Artemisia, who had fought successfully on his side at the battle of Salamis.

CHRONOLOGICAL INSTITUTE.—December 29th.—Papers were read—1. By Dr. Wm. Bell, Hon. Sec., 'On the Date of the Eclipse of the Sun, 31st August, 1030,' proving historically that this was not the date of the death of St. Olaf, as asserted by Professor Hunstein of Christiania. 2. 'On the Date of the Fall of Sardis, and the Deposition of Croesus,' by J. W. Bosanquet, Esq., Treasurer. 3. 'On the Chronology of Egypt as affected by Mr. Forster's Treatise on Egyptian Monuments,' by Dr. Turnbull. A conversation followed.

LINNEAN.—Feb. 4th.—Francis Boott, Esq., M.D., V.P., in the chair. Peter Squire, Esq., was elected a Fellow. R. W. Hall, Esq., was proposed a Fellow, and Professor Kölliker, of Würzburg, and Professor von Siebold, of Berlin, as Foreign Members. Read—1. A Memoir 'On the Shell-bearing Molluscous Animals, with reference to Structure and Form,' by Robert Garner, Esq., F.L.S. 2. An extract of a Letter from Mr. Barter, on the Niger Expedition, dated 'Rabba, Sept. 29, 1857,' addressed to R. Bentley, Esq., F.L.S. 3. A Paper, entitled 'Linné, aurait-il dans une intention mauvaise, dénaturé l'orthographe du nom de genre *Buffonia*?' by Mons. A. L. A. Fée. Communicated by Thomas Moore, Esq., F.L.S.; and also a 'Note on M. Fée's Communication,' by John J. Bennett, Esq., F.R.S., Sec. L.S.

CHEMICAL.—Jan. 21st.—Dr. Lyon Playfair, C.B., President, in the chair. Messrs. A. Neild, D. Hanbury, and R. Rumney, were elected Fellows. Dr. Daubeny read a communication he had received from Baron Liebig, relating to the absorbent powers of soils. Baron Liebig maintained that the spongioles of plants, in obtaining their supply of saline matter, did not act by simple absorption, but exerted a real decomposing action upon certain ill-defined compounds which the saline matter formed with the insoluble constituents of the soil. Dr. Daubeny also referred to the ammoniacal emanations from volcanoes, and suggested that they might arise from the aqueous decomposition of certain nitrides, such as the nitride of boron, and the nitride of titanium. Dr. Hofmann for himself, and Dr. Frankland for Professor Von Babo, respectively exhibited and described two new forms of gas combustion-furnace. Dr. Gladstone read a paper 'On the Chemical Action of Water on Soluble Salts.' The author showed that when the concentrated solution of a coloured salt was diluted with varying quantities of water, the absolute quantity and character of the colour were not usually interfered with, but that remarkable exceptions occurred, particularly in the bromides of the ferrocupric class of elements.

GEOGRAPHICAL.—Feb. 8th.—Sir Roderick I. Murchison, President, in the chair. Mr. T. Brown, F. D. Goldsmid, Lieutenant J. A. Napier Hewett, Mr. G. Seymour, and the Rev. A. W. Thorold were elected Fellows. The papers read were:—1. 'Journey from Little Namaqualand eastward along the Orange River, the Northern Frontier of the Colony, &c., with Map,' by Mr. Robert

Moffatt, F.R.G.S.; communicated by Governor Sir George Grey, F.R.G.S., through the Right Hon. H. Labouchere, M.P., F.R.G.S., Colonial Office. 2. 'Route by the Rivers Waini, Barama, and Cuyuni, to the Gold Fields of Caratal, &c.,' by Sir W. H. Holmes and Mr. W. H. Campbell; communicated by the Earl of Clarendon, K.G., F.R.G.S., Foreign Office. 3. Preparations for the Departure of the Livingstone Expedition. The Chairman having read a memorandum agreed to by the Council that day, noticing the great achievements and merits of Dr. Livingstone, reminded the meeting that this was the last occasion they would have of meeting him in that room; it had been resolved therefore to give Dr. Livingstone a dinner prior to his departure, which would be held at the Freemasons' Tavern, on Saturday next (this day), at half-past six, when he trusted to see a large assemblage of the friends and admirers of that distinguished traveller. The papers elicited remarks by Mr. Crawford, the Chairman, Dr. Livingstone, and Mr. Hamilton.

PHILOLOGICAL.—Jan. 7th.—Prof. Goldstickler in the chair. The Rev. Derwent Coleridge, Principal of St. Mark's College, Chelsea; the Rev. Samuel Clarke, Principal of the Training College, Battersea; B. B. Woodward, Esq.; and H. D. Woodfall, Esq., were elected Members. On the motion of Mr. Furnivall, the Society resolved, 'That a new English Dictionary be prepared under the authority of the Philological Society,' and 'that the work be placed in the hands of two committees, the one literary and historical, consisting of the Very Rev. the Dean of Westminster, F. J. Furnivall, Esq., and Herbert Coleridge, Esq., (Sec.); the other, etymological, consisting of Hensleigh Wedgwood, Esq., and Prof. Malden.' The paper read was 'On English Etymologies,' by Hensleigh Wedgwood, Esq.

Jan. 21st.—The Very Rev. the Dean of Westminster in the chair. John Manship Norman, Esq., of Dencombe Crawley, Sussex, and Francis Pulsky, Esq., were elected Members. The paper read was 'On the Indefinite Article and its Family,' by Prof. Goldstickler.

NUMISMATIC.—Jan. 28th.—W. S. W. Vaux, President, in the chair. Mr. Vaux read a paper 'On some Gold Oriental Coins of Seistan,' lately procured by Col. Sir H. C. Rawlinson, in which he pointed out the rarity of the local money of this province, and stated that no specimens had as yet been published of this class, so far as he was aware. Almost all the specimens exhibited belonged to a ruler named Kholf ben Ahmed, who governed that district of Asia towards the close of the fourth century of the Hejra, and who was, after a long and gallant resistance, conquered by the celebrated Mahmud of Ghazna.

MEETINGS FOR THE ENSUING WEEK.

Monday.—Royal Academy, 8 p.m.—(Richard Westmacott, Esq., On Sculpture.)
Tuesday.—Pathological, 8 p.m.
 Royal Institution, 3 p.m.—(Prof. Huxley, Animals and Plants compared Physiologically.)
 Civil Engineers, 8 p.m.—(Mr. J. A. Lonsdale and Mr. C. H. Brooks, On Submerging Telegraphic Cables.)
 Statistical, 8 p.m.—(Mr. Newmarch, On the History of Prices in 1857.)
Wednesday.—Society of Arts, 8 p.m.—(Prof. Grace Calvert, On Recent Scientific Discoveries as Applied to Arts and Manufactures.)
Thursday.—Antiquaries, 8 p.m.
 Philological, 3 p.m.
 Philosophical Club, 5½ p.m.
 Royal Institution, 3 p.m.—(Professor Tyndall, On Heat.)
 Royal.—(Mr. Jago, On the Functions of the Tympanum. Prof. W. Thomson, Remarks on the Interior Melting of Ice.)
 Chemical, 8 p.m.—(Mr. Mercer, On Atomic Weights.)
 Linnean, 8 p.m.—(1. Mr. Lubbock, On the Arrangement of the Cutaneous Muscles of the Larva of *Papilio brephos*. 2. Mr. Macdonald, On the Probable Metamorphosis of *Pedicularia* and other genera of *Gastropoda*. 3. Mr. Macdonald, On the Anatomy of *Lusibia*.)
Friday.—Royal Institution, 8½ p.m.—(Mr. E. B. Denison, On some of the Improvements in Locks since 1851.)
Saturday.—Medical.
 Royal Institution, 3 p.m.—(Professor Blixam, On the Chemistry of the Elements which Circulate in Nature.)
 Asiatic, 8½ p.m.—(Dr. R. G. Latham, On the Elements of the Ugrian Mythology, with special Reference to the Finn Poem, the *Kalevala*.)

To CORRESPONDENTS.—H.B.H., Paris, E.N.D., B.B., K.—received.

THE LITERARY GAZETTE.

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1. REVIEWS OF NEW BOOKS, ENGLISH AND FOREIGN.

The books of the day are noticed as promptly as possible consistently with a due regard to their relative interest; and while the chief place is given to English publications, Foreign works of more than ordinary importance receive early attention.

2. PUBLICATIONS RECEIVED.

Under this head are given lists of the books published in the course of the week, and short notices of such as are not considered of sufficient importance to require a more elaborate review.

3. ARTICLES AND COMMUNICATIONS.

There are many questions connected with Literature, Education, Social Science, Art, &c., which are of considerable interest, and yet cannot always be noticed in a review. To the discussion of these is devoted a place under this head. Here also are inserted Original Poetry, Correspondence, and Obituary Memoirs.

4. GOSSIP OF THE WEEK.

In this section are gathered up the fragments of intelligence which are current in literary and scientific circles. The Foreign Gossip is supplied by correspondents resident in various parts of the Continent.

5. FINE ARTS.

To the Fine Arts is assigned a prominent place. Painting, Sculpture, and works of Art generally are critically described; and books on art and such publications as derive their chief attraction from their artistic illustration are reviewed.

6. MUSIC AND THE DRAMA.

Critiques of the Operas, Concerts &c., and of new Plays in London and Paris.

7. LEARNED SOCIETIES.

Reports of the proceedings of the Learned Societies, together with abstracts of their principal papers, are communicated by the respective Secretaries, and a List of the Meetings, and summary of the papers to be read during the ensuing week.

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SOUTHAMPTON.—The Peninsular and Oriental Steam Navigation Company having announced their intention of occasionally despatching, about the 10th and 25th of the month, a Steamer from Southampton to Alexandria for the conveyance of passengers and cargo, in correspondence with their line of Contract Mail Packets between Suez and Bombay, advantage will be taken of every such opportunity for making up additional Mails for India, containing correspondence for the whole of India intended to be forwarded by the route of Southampton, with the exception of correspondence for the settlements of Penang and Singapore, which would not be benefited by being so forwarded. Information will be given from time to time in the "Daily Packet List" of the intended departure of these extra Steamers from Southampton.

By Command of the Postmaster-General,
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BY WILLIAM HENRY HARVEY, M.D., M.R.I.A., F.L.S.

PROFESSOR OF BOTANY IN THE UNIVERSITY OF DUBLIN.

In the year 1853 the author undertook a botanical voyage to the Australian Colonies with the sanction, and under the auspices, of the University of Dublin, and of the Royal Dublin Society, both which corporate bodies contributed to his outfit, and, in great measure, supplied the funds on which he travelled. He visited in succession the Colonies of Western Australia, Victoria, Tasmania, and New South Wales; and in the eighteen months which he spent on the Australian shores, collected, prepared, and dried upwards of 20,000 specimens of 600 species of Algæ; besides incidentally making collections of marine zoology to a considerable extent, and drying land plants wherever he had the opportunity. Full sets of his collections have been placed in the University Museum and Herbarium; a set of the botanical collections, nearly as full, has been sent to the Hookerian Herbarium at Kew, and the duplicate Algæ that remained over have been sold towards payment of the expenses of the journey.

The duplicates having thus been widely scattered, it has appeared to the author that a work illustrating these dispersed collections would be acceptable to those who possess them, and might be made subservient to a wider purpose—that of promoting the study of marine botany in our Australian dependencies. In England, the publication of serial works, accompanied by plates or woodcuts, and confined to separate branches either of zoology or of botany, has been found greatly to promote the study of natural history in general. The student who commences with one branch, when he has in degree mastered it, is led on to another; and thus one who begins by picking up a few shells or sea-weeds on occasional visits to the shore, often ends in becoming an expert naturalist. The author is gratified by knowing that his *PHYCOLOGIA BRITANNICA* has obtained a considerable circulation among amateur collectors of marine plants, and he trusts has been useful in leading many persons to observe and study some of the most beautiful and delicate of nature's vegetable productions. In now commencing a *PHYCOLOGIA AUSTRALICA*, though he cannot look for so large an audience, at least at the outset, yet he hopes his work may win some favour from the colonial public, for whose use it is more especially designed. Great cities are springing up in the Australian colonies, and watering places, to which the citizen takes his family to enjoy the sea-breeze during the summer time, are coming into being. English tastes and habits are reproduced at the antipodes; and among these a love of natural history may be prominently reckoned. Our fellow countrymen, wherever they go, bring or send home specimens of natural objects, and there is, perhaps, no country where collections of botanical and zoological specimens are more widely dispersed than in England among the population. Already in Australia there are many intelligent collectors of Algæ, and all that seems wanting to induce many more to pursue this pleasing branch of botany is some book, in which they will find an intelligible account of these plants, and of their classification.

The present work, it is hoped, will serve the purpose both of the expert botanist and of the amateur. The former will find a technical description of each plant; and the latter will have presented to his or her eye a coloured drawing, accompanied, when necessary, with such magnified dissections as will enable any one possessed of a microscope to refer with certainty the figure before him to the plant which it represents.

Unfortunately—as some may think—for the amateur, the classification of Algæ is based on characters which it often requires a microscopic examination to ascertain. This presents a difficulty at the outset, which is only gradually overcome as the student's knowledge of types of form becomes extended. After all, however, the generic types are not very numerous, and, when once known, are easily remembered and discriminated.

The number of species of Algæ dispersed along the Australian coasts may, perhaps, be estimated at nearly 1000. The number actually known is about 800. To figure each of these, on a separate plate, would too greatly enhance the price of the work, and place it beyond the reach of an ordinary purchaser. It is therefore proposed to limit the number of plates to 300, and to select, from the ample materials supplied by the Dublin University Herbarium, such forms as are most characteristic of the Australian marine Flora; care being taken to figure at least one species of every genus. Figures of many Australian Algæ have already been given in the author's '*NEREIS AUSTRALIS*,' and in the '*FLORA NOVE ZELANDIÆ*' and '*FLORA TASMANICA*' of his friend Dr. Hooker. As a general rule, species figured in these works will not be repeated; but exceptions will be made in favour of some characteristic types of form which cannot be omitted without injury to the scope of the present work.

Before closing this Advertisement the author takes the opportunity of soliciting from collectors of Algæ resident in Australia, specimens in aid of the work. It is, he trusts, the interest of every Australian Algologist, that a work undertaken to illustrate the Algæ of Australia should be made as perfect as possible; and to make it perfect will require *well dried* specimens of as many species as can be procured. For even though all be not *figured* in our volumes, those that are omitted will be briefly described and compared with figures of species they most resemble in a general *synopsis* intended to be prefixed to the last volume. Collections of specimens will therefore be thankfully received and gratefully acknowledged. Nor will the advantage herein be all on the side of the author. For if collectors who send him specimens will *carefully* number them, and keep a duplicate set numbered to correspond with that forwarded, he will undertake to send in return *names*, according to the list of numbers. In this way the student may easily have his whole collection correctly named, provided he make no mistake in putting two different plants under one number.

Collections of specimens intended for the author may be sent to CHARLES MOORE, Esq., Botanic Gardens, Sydney; to Dr. FERDINAND MUELLER, Botanic Gardens, Melbourne; or to GEORGE CLIFTON, Esq., Fremantle, Western Australia. Or, if sent to England, they may be addressed to Sir W. J. HOOKER, Royal Gardens, Kew; or to the publisher—

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